SECTION J

LIST OF ATTACHMENTS

SECTION J

LIST OF ATTACHMENTS

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ATTACHMENT A – LIST OF ACRONYMS

The following list of acronyms may be used in this contract.

ACWP	Actual Cost of Work Performed
ADR	Alternative Dispute Resolution
AFL-CIO	American Federation of Labor-Congress of Industrial Organizations
ALARA	As Low As Reasonably Achievable
ASME	American Society of Mechanical Engineers
ANSI	American National Standards Institute
BCWP	Budgeted Cost of Work Performed
BCWS	Budgeted Cost of Work Scheduled
B&R	Budgeting and Reporting
CD-ROM	Compact Disc-Read Only Memory
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
CFR	Code of Federal Regulations
CO	Contracting Officer
COR	Contracting Officer Representative
CPI	Cost Performance Index
CPIF	Cost Plus Incentive Fee
CSPI	Cost and Schedule Performance Index
DEAR	Department of Energy Acquisition Regulation
DNFSB	Defense Nuclear Facilities Safety Board
DOE	U.S. Department of Energy
DQO	Data Quality Objectives
ECOLOGY	Washington State Department of Ecology
EMR	Experience Modification Rate
EPA	U.S. Environmental Protection Agency
EPCRA	*Emergency Planning and Community Right-To-Know Act of 1986*
ERISA	*Employee Retirement Income Security Act of 1974*
ES&H	Environment(al), Safety and Health
ESQ&H	Environment(al), Safety, Quality and Health
FAR	Federal Acquisition Regulation
FOCI	Foreign Ownership, Control or Influence
FY	Fiscal Year
HCA	Head of the Contracting Activity
HLW	High-Level Waste
HUBZone	Historically Underutilized Business Zone
HWMA	*Hazardous Waste Management Act*
ICD	Interface Control Document
ISMS	Integrated Safety Management System
JOBBS	Job Opportunities Bulletin Board System
LAW	Low Activity Waste
LDR	Land Disposal Restrictions
MEPP	Multiple Employer Pension Plan
MS	Mail Stop
MSDS	Material Safety Data Sheet
MTG	Metric Tons of Glass
NEPA	*National Environmental Policy Act of 1969*
NQA	Nuclear Quality Assurance
NOC	Notice of Construction
NOV	Notice of Violation
NOAV	Notice of Alleged Violation
NRC	Nuclear Regulatory Commission
NTE	Not to Exceed

OCI	Organizational Conflict of Interest
ORP	U.S. Department of Energy, Office of River Protection
OSHA	Occupational, Safety and Health Administration
PBS	Project Breakdown Structure
PSD	Prevention of Significant Deterioration
PAAA	*Price Anderson Amendments Act of 1988*
PL	Public Law
PCB	Polychlorinated biphenyls
PPA	*Pollution Prevention Act of 1990*
ppm	Parts Per Million
QARD	Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program
RCRA	*Resource Conservation and Recovery Act of 1976*
RFP	Request for Proposal
RL	U.S. Department of Energy, Richland Operations Office
ROD	Record of Decision
RPP	River Protection Project
SAS	Safeguards and Security
SEB	Source Evaluation Board
SF	Standard Form
SIC	Standard Industrial Classification
SPI	Schedule Performance Index
SRD	Safety Requirements Document
TBD	To Be Determined
TIN	Taxpayer Identification Number
TPA	*Hanford Federal Facility Agreement and Consent Order* (also known as Tri-Party Agreement)
TRU	Transuranic (waste)
TSCA	*Toxic Substances Control Act of 1976*
TSR	Technical Safety Requirements
UCNI	Unclassified Controlled Nuclear Information
USC	United States Code
WAC	Washington Administrative Code
WBS	Work Breakdown Structure
WDOH	Washington State Department of Health
WTP	Hanford Tank Waste Treatment and Immobilization Plant

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ATTACHMENT B

Reserved

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ATTACHMENT C
GOVERNMENT-FURNISHED PROPERTY AND GOVERNMENT-FURNISHED EQUIPMENT

Government-Furnished Property and Government-Furnished Equipment as referenced in Section C.9, *Interface Control Documents*.

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ATTACHMENT D – SMALL BUSINESS SUBCONTRACTING PLAN

Waste Treatment Plant Project
SMALL BUSINESS SUBCONTRACTING PLAN

1. Name of Prime Contractor: Bechtel National, Inc. (BNI)
   Address: 2435 Stevens Center Place
   Richland, WA 99354

2. Prime Contract Number: DE-AC27-01RV14136
   Total Estimated Contract Cost (TECC): $10,673,961,576
   Contract Period of Performance: 12/11/2000 through 8/15/2019
   Place of Performance: Hanford Site, Richland, WA

Description of Contract Requirements: Bechtel National, Inc. is leading a project to design, build, and start up the world's largest complex of waste treatment facilities. The plant will use a process known as vitrification to immobilize some of the 56 million gallons of chemical and radioactive waste now stored in Hanford's 177 aging tanks. The Project team is divided into Engineering, Construction, Operations, and Business areas.

In execution of BNI's responsibilities under the contract for the Hanford Tank Waste Treatment and Immobilization Plant (WTP) Project, BNI will comply with Public Law 95-507, FAR 52.219-8, and FAR 52.219-9 to maximize the utilization of small business (SB) concerns for purchasing goods and services. In compliance with DOE Acquisition Letter 2005-06, dated 3/11/05, the subcontracting base excludes subcontracts involving performance outside of the United States and purchases from Bechtel Corporation and its affiliates. Data sources will be the Bechtel Procurement System (BPS), the B-Card System, and the Bechtel Accounts Payable System.

The following plan provides the WTP Project's Small Business Subcontracting Plan as a percent of the total planned subcontracting effort and the subcontracting effort available:

Total estimated dollars available for subcontracting: **$4,857,719,913** ***(45.51% of TECC)***

Category	Subcontracting Planned Dollar Amount	Percentage of Total Estimated Subcontracting Effort
Total planned and available for subcontracting to SB concerns	$1,962,518,845	40.4%
Total planned and available for subcontracting to Small Disadvantaged Business (SDB) concerns (included in SB concern numbers)	$170,020,197	3.5%
Total planned and available for subcontracting to Woman-Owned SB (WOSB) concerns (included in SB concern numbers)	$194,308,797	4.0%
Total planned and available for subcontracting to Historically Underutilized Business Zone (HUBZone) SB concerns (included in SB concern numbers)	$77,723,519	1.6%
Total planned and available for subcontracting to Native American Owned (NAB) concerns (includes both Large Business (LB) and SB NABs; SB NAB numbers are included in SB concerns; LB and SB NAB numbers are included in SDB concerns)	$48,577,199	1.0%
Total planned and available for subcontracting to Veteran-owned SB concerns (included in SB concern numbers)	$242,885,996	5.0%
Total planned and available for subcontracting to Service-Disabled Veteran-owned SB concerns (included in SB concern numbers)	$7,286,580	0.15%

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Waste Treatment Plant Project
SMALL BUSINESS SUBCONTRACTING PLAN

Total dollars for subcontracting to Washington and Oregon-based businesses (includes large and small businesses)	$1,700,201,970	35.0%

3. Potential Subcontracting Opportunities for Small Business
Items to be subcontracted under this contract and the types of business supplying them are:

Subcontracting Items	Large Business	Small Business	Disadvantaged Small Business	Woman-Owned Small Business	HUBZone Small Business	Veteran-Owned Small Business	Service Disabled Veteran-Owned
Construction	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Roofing/Siding	x	x	x			x	
Architectural Specialties/Casework	x	x	x	x		x	
NDE/other Testing	x	x					
Equipment/Piping Insulation	x	x	x	x			
Surfacing/Paving	x						
Surveying	x	x	x	x	x	x	
Elevators	x						
Gas Systems	x						
Transportation/Freight	x	x					
Misc. Construction Services	x	x	x	x	x	x	x
Misc. Construction Equip	x	x	x	x	x	x	x
Pipe/Valves/Fittings	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Civil/Structural/Architectural	**X**	**X**	**X**	**X**	**X**	**X**	
Concrete Anchors	x	x		x	x		
Fabricated Metal Embeds	x						
Electrical	**X**	**X**	**X**	**X**	**X**	**X**	
Fiber Optic/Power Cable	x	x	x	x	x	x	
ITS Fused Panels	x						
Through Wall Lighting	x	x				x	
Instrumentation & Controls	**X**	**X**	**X**	**X**	**X**	**X**	
Laboratory Equipment	x	x	x	x	x	x	
Flow Instruments	x	x					
Process Gauges	x	x					
Instrument Hoses	x	x	x	x			
Transmitters	x	x					
Cesium/Air/Seismic/Contamination Monitors	x	x		x		x	
Jumpers/Melter	**X**	**X**	**X**	**X**		**X**	
Rigid Process Jumpers/Fab	x						
Pulse Pot Frames	x						
Gaskets/Connectors	x	x	x	x		x	
Heat Exchangers	x	x	x	x		x	
Mechanical/HVAC	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Cranes/Lift Beams	x	x					
Pressure Vessels/Pumps	x	x	x	x	x	x	x
Metal Fabrication	x	x	x	x	x	x	x
Piping Racks/Specialty Items	x	x		x	x	x	x
Chiller Plant/Cooling Tower	x	x	x	x	x	x	x
Bulges/Absorbers/Tanks	x	x	x	x	x	x	x
HEPA/Inline Filters	x	x		x		x	
Demisters/Humidifiers	x	x					
Expansion Joints/Compressors	x	x		x			

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SMALL BUSINESS SUBCONTRACTING PLAN

Chemicals/Storage	x	x	x			x	x
Technical/Engineering Services & Office Products	**X**	**X**	**X**	**X**	**X**	**X**	**X**

4. **Method Used to Develop Subcontracting Goals**
The method used to develop the subcontracting goals for small business (SB), small disadvantaged business (SDB), woman-owned small business (WOSB), HUBZone small business (HUBZone), veteran-owned small business (VOSB), and service-disabled veteran-owned small business (SDVOSB) concerns is described as follows:

To establish the subcontracting goals and commitments, the WTP Project gathered available Project information, forecasted probable acquisition needs, and analyzed Project estimates. The Project also used its collective DOE experience to determine potential requirements and contingencies. The Project's subcontracting goals are both realistic and attainable. The goals will be reached by:

- Utilizing acquisition procedures to ensure participation by small business concerns.
- Requiring the inclusion of participation by appropriate small business concerns as a proposal/bid requirement in future procurements.

5. **Methods Used to Identify Potential Sources for Solicitation**
The method used to identify potential sources for solicitation purposes is as follows:
- Utilize the System for Award Management (SAM.gov) and the Small Business Administration's Dynamic Small Business Search Database.
- Utilize Bechtel's Global Supplier Information System (GSIS).
- Coordinate with other Hanford Site Prime Contractors to seek information on small, small disadvantaged, woman-owned, HUBZone, veteran-owned, and service-disabled veteran-owned small businesses.
- Coordinate with the State and Regional Small Business Administration representatives and resources.
- Participate in various regional small, small disadvantaged, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small businesses trade associations.
- Sponsor and participate in trade fairs to inform small, small disadvantaged, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small businesses about upcoming procurement opportunities.

6. **Indirect Costs**
Indirect costs are ( ) are not (X) included in the above goals.

7. **Administrator of Small Business Subcontracting Plan**
The following individual will administer the subcontracting program:

Name: Frank R. Salaman, Acquisition Services Manager
Address: 2435 Stevens Center Place
Richland, WA 99354
Telephone: (509) 371-9561
Email: frsalama@bechtel.com

This individual's specific duties, as they relate to the firm's subcontracting program, are as follows. General overall responsibility for reviewing and monitoring execution of the plan including but not limited to:

- Ensure that source lists of potential subcontracts for which goals are established herein are maintained.
- Ensure that procurement packages are structured to permit small, small disadvantaged business, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small business concerns to participate to the maximum extent possible.
- Seek out other SB concerns through the use of mass media tools when the number of prospective sources is not adequate.
- Mentor SBs currently under subcontract, enhancing their ability to provide timely, cost-effective, and quality services.
- Attend SB training, monitor program changes to ensure compliance - review, revise, amend applicable procedures.
- Advise other personnel of the purposes of this program and ensure adequate support by all concerned.
- Maintain records showing BNI's performance compared with the goals established herein and submit information on the forms specified in the contract in a timely manner.

Waste Treatment Plant Project
SMALL BUSINESS SUBCONTRACTING PLAN

- Establish and maintain a relationship with the Small Business Administration and representatives to obtain assistance in finding competent small, small disadvantaged business, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small business concerns.
- Coordinate with other Hanford Site Prime Contractors to secure data on small, small disadvantaged, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small businesses and their capabilities.
- Report to the WTP Project Director on the progress made towards meeting the Small Business Subcontract Plan goals and identification of action items to continuously improve on the plan.

8. Implementation

The following efforts will be made to assure that small, small disadvantaged, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small business concerns will have an equitable opportunity to compete for subcontracts.

- Identify known potential sources as large concerns, small business, small disadvantaged business, woman-owned small business, HUBZone small business, Native American owned, veteran-owned small business, and service-disabled veteran-owned small business concerns.
- Include small, small disadvantaged, woman-owned, HUBZone, Native American owned, veteran-owned, and service-disabled veteran-owned small business concerns in Request for Proposals where such concerns are known to exist and are qualified to supply the item(s) or service being procured.
- Assist all small business concerns in providing management counseling on request.
- Provide sufficient bid solicitation time for preparation of proposals, quantities, specifications, and delivery schedules to facilitate participation.
- Participate in small business, small disadvantaged business, woman-owned business, HUBZone, veteran-owned small business, and service-disabled veteran-owned small business trade fairs and conferences. Provide promotional activities which increase community awareness of subcontracting opportunities.
- Prepare work scopes to develop opportunities which can be bid and executed by all small business concerns.
- Maintain good working relationships with Small Business Administration representatives to obtain assistance and coordination in finding capable SBs.

9. Subcontract Flow-Down

The clause entitled "Utilization of Small Business Concerns" will be included in all subcontracts that offer further subcontracting opportunities and all subcontractors (except small business concerns) who receive subcontracts in excess of $650,000 *($1,500,000 for construction of any public facility)* will be required to adopt a similar plan.

10. Reports, Studies, and Surveys

The Offeror/Subcontractor will cooperate in any studies or surveys as may be required; submit periodic reports in order to allow the Government to determine the extent of compliance with the subcontracting plan; submit the "Individual Subcontracting Report" (ISR) and "Summary Subcontracting Report" (SSR) in accordance with the instructions on the eSRS website at www.esrs.gov; and ensure that its subcontractors agree to submit reports online utilizing eSRS.

ISR data must be submitted online at www.esrs.gov on a semi-annual basis on or before April 30 and October 31. SSR data must be submitted online at www.esrs.gov on or before October 31.

11. Records

The types of records that will be maintained to demonstrate the procedures adopted to ensure compliance with the requirements and goals of the Small Business Subcontracting Plan include:

a. Source lists (e.g., SAM.gov and SBA's Dynamic Small Business Search database), guides, and other data that identify small business, small disadvantaged business, woman-owned small business, HUBZone small business, Native American owned business, veteran-owned small business, and service-disabled veteran-owned small business concerns.

b. Organizations contacted in an attempt to locate sources that are small business, small disadvantaged business, woman-owned small business, HUBZone small business, Native American owned business, veteran-owned small business, or service-disabled veteran-owned small business concerns.

c. Records on each subcontract solicitation resulting in an award of more than $150,000, indicating:

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SMALL BUSINESS SUBCONTRACTING PLAN

- Whether small business concerns were solicited and, if not, why not;
- Whether small disadvantaged business concerns were solicited and, if not, why not;
- Whether woman-owned small business concerns were solicited and, if not, why not;
- Whether HUBZone small business concerns were solicited and, if not, why not;
- Whether Native-American owned business concerns were solicited and, if not, why not;
- Whether veteran-owned small business concerns were solicited and, if not, why not;
- Whether service-disabled veteran-owned small business concerns were solicited and, if not, why not; and
- If applicable, the reason award was not made to a small business concern.

d. Records of any outreach efforts to contact:

- Trade associations
- Business development organizations
- Conferences and trade fairs to locate small business, small disadvantaged business, woman-owned small business, HUBZone small business, Native American owned business, veteran-owned small business, and service-disabled veteran-owned small business sources.

e. Records of internal guidance and encouragement provided to acquisition personnel through:

- Workshops, seminars, training, etc.
- Monitoring performance to evaluate compliance with the program's requirements.

f. On a contract-by-contract basis, records to support award data submitted, including the name, address, and business size of each subcontractor.

Signed: Margaret G. McCullough Date: 13 Dec 2013

Typed Name: M. G. McCullough

Company: Bechtel National, Inc., Waste Treatment Plant Project

Title: Project Director

Plan Accepted by: Bonnie L. Dawson 01/30/14
(ORP-WTP Contracting Officer)

Date: 01/30/14

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT E – LIST OF APPLICABLE DIRECTIVES (LIST B-DEAR 970.5204.78)

(a) Environmental, safety and health (ES&H) requirements appropriate for work conducted under this Contract that have been determined by a DOE approved process to evaluate the work and the associated hazards and identify an appropriately tailored set of standards, practices and controls:

DOCUMENT NUMBER	DATE	TITLE
		DELETED **(M130)**
		DELETED **(M166)**
		DELETED **(M166)**
		DELETED **(M166)**
		DELETED **(M166)**
~~RL/REG-97-04~~	~~08/02~~	DELETED **(206)**
~~RL/REG-97-05~~	~~07/19/01~~	DELETED **(206)**
		DELETED **(M166)**
~~RL/REG-98-05~~	~~07/01/99~~	DELETED **(206)**
~~RL/REG-98-06~~	~~06/30/99~~	DELETED **(206)**
~~RL/REG-98-14~~	~~06/29/98~~	DELETED **(206)**
~~RL/REG-99-17~~	~~04/25/01~~	DELETED **(206)**
~~RL/REG 2000-03~~	~~05/04/01~~	DELETED **(206)**
DOE O 420.1B, CRD	12/22/05	Facility Safety (Partial Implementation per CCNs 168377 (ORP 07-WTP-306) and 170076) **(M133)** to include Office of Environmental Interim Policy, "Code of Record for Nuclear Facilities" dated September 3, 2009. **(M170) (M175)**
DOE O 420.1C, CRD	12/04/12	Facility Safety (Partial Implementation per ORP 13-TRS-0014, dated April 26, 2013, and CCN 260182) to only implement new Maximum Possible Fire Loss threshold values (310)
DOE O 470.2B, CRD	10/31/02	Independent Oversight and Performance Assurance Program **(M175) (290)**

(b) Additional Directives applicable to this Contract. The directive(s) or applicable section(s) of the directive(s) are applied as specified in other Sections of this Contract.

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
~~06-AMD-050 (CCN 144548)~~		DELETED (310)	
DOE/RL-88-21	10/01/96 12/21/99	Double-Shell Tank Unit Permit Application	Contract Clause C.6, Standard 7(e)(4)(vi)(B) & Contract Clause C.8, Specification 7, 7.2.1.4 and 7.2.2.1; Specification 8, 8.2.1.4 and 8.2.2.1 **(M175)**

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
DOE/EM-0093	12/96	Waste Acceptance Product Specifications for Vitrified High Level Waste Forms (WAPS) Revision 2 **(M114)**	Contract Clause C.8, Specification 1, 1.2.1.4 and 1.2.2.1.1 **(M175)**
DOE/RL-94-02, Rev 6 (336)	06/2014 (336)	Hanford Emergency Management Plan **(A197)(310)** (Revision 6, June 2014) (336)	Contract Clause C.6, Standard 4(j) and Standard 7(e)(1) Table S7-1 **(M175) (A197) (336)**
DOE M 140.1-1B, CRD	03/30/01	Interface with Defense Nuclear Facilities Safety Board.	Contract Clause C.4 (d) **(M175)**
DOE O 142.3A, CRD	10/14/10	Unclassified Foreign Visits and Assignments Program. **(M047) (M124) (204)**	The order is effective regardless of comment above at (b) **(M175)**
~~DOE O 205.1A, CRD~~		DELETED **(M194)**	
~~DOE M 205.1-2~~		DELETED **(M175)**	
~~DOE M 205.1-5, CRD~~		DELETED **(M194)**	
~~DOE M 205.1-6, CRD~~		DELETED **(M194)**	
~~DOE M 205.1-7, CRD~~		DELETED **(M194)**	
~~DOE M 205.1-8, CRD~~		DELETED **(M194)**	
DOE O 206.1, CRD	01/16/09	DOE Privacy Program **(235)**	The order is effective regardless of comment above at (b). Contractor shall implement in accordance with CCN 231161 **(321)**
DOE O 206.2, CRD	02/19/13	Identity, Credential, and Access Management **(307)**	The order is effective regardless of comment above at (b) **(307)**
DOE O 210.2A, CRD	04/8/11	DOE Corporate Operating Experience Program **(M077) (310)**	Contract Clause H.49 **(M175)** Refer to Note 10 **(310)**

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
DOE O 221.1A, CRD	04/19/08	Reporting Fraud, Waste, and Abuse to the Office of Inspector General. **(M133)**	Refer to Note 3 **(M175)**
DOE O 221.2A, CRD	02/25/08	Cooperation with the Office of Inspector General. **(M133)**	Refer to Note 3 **(M175)**
DOE O 226.1B, CRD	04/25/11	Implementation of Department of Energy Oversight Policy **(M069) (M108)(310)**	Contract Clause H.46 **(M175)**Refer to Note 11 **(310)**
DOE O 231.1B	6/27/2011	Environment, Safety, and Health Reporting **(M033) (310)**	Contract Clause C.6, Standard 1(d)(6) **(M175) (310)**
~~DOE M 231.1-1A, Change 2, CRD~~ (332)		DELETED (332)	
~~DOE M 231.1-2, CRD~~		DELETED **(256)**	
~~SCRD M 231.1-2~~		DELETED **(256)**	
SCRD O 232.2 Admin. Change 1 (332)	8/30/11	Occurrence Reporting and Processing of Operations Information, Revision 1 **(268)**	Contract Clause C.6, Standard 1(d)(5) and (6). Contractor shall implement in accordance with CCN 269738 (332)
~~HFID 232-1B~~		DELETED **(256)**	
~~DOE N 234.1, CRD~~		DELETED (310)	
~~DOE O 241.1, CRD~~		DELETED (310)	
DOE/RW-0333P	10/01/08	Quality Assurance Requirements and Description for the Civilian Radioactive Waste Management Program (QARD) – Revision 20 **(M099) (M134)**	Contract Clause C.6, Standard 2(a)(2)(v), Standard 5(d), and Standard 7(e)(3)(ii)(A) and Contract Clause C.8, Specification 1, 1.2.1.7, 1.2.2.1.1, and 1.3 **(M175)**
DOE O 350.1, Chg 3, CRD	02/23/10	Contractor Human Resource Management Program **(M171) (M175)**	Contract Clause H.37 **(M175)**

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
DOE/RW-0351	5/31/07	Waste Acceptance System Requirements Document (WASRD) - Revision 5 **(M114)**	Contract Clause C.6, Standard 2(a)(3)(vii)(E) and Standard 6(c)(2) and Contract Clause C.8, Specification 1, 1.2.1.3 and 1.2.2.1.1 **(M175)**
~~DOE O 413.3A, CRD~~		DELETED **(271)**	
~~DOE M 413.3-1~~		DELETED **(271)**	
DOE O 413.3B, CRD	11/29/10	Program and Project Management for the Acquisition of Capital Assets. Refer to Note 7 for implementation **(271)**.	Contract Clause C.3, paragraph (b), sub-paragraph (1), item (ix), C.6, Standard 1, opening paragraph, (a), (b)(3) and (c)(1) and Standard 5(a)(6) and (k).
DOE O 414.1C, CRD	06/17/05	Quality Assurance (M066)	Contract Clause C.6, Standard 7(e)(3)(i) & (iv) (M175)
DOE 414.1D, CRD, Chg 1 (349)	05/08/13 (349)	Quality Assurance (349)	The order is effective regardless of comment above at (b) and implemented in accordance with Note 14. (349)
DOE O 420.1B, Chapter V	12/22/05	Facility Safety (245)	The order is effective regardless of comment above at (b)
DOE O 422.1, CRD	06/29/10	Conduct of Operations **(207)**	The notice is effective regardless of comment above at (b). Contractor shall implement consistent with CCN 229138.
DOE O 425.1D, Chg 1, CRD	04/16/10	Verification of Readiness to Start Up or Restart Nuclear Facilities (M033) (A190)(310)	Contract Clause C.6, Standard 5(a)(5), (c)(6), (e)(2), (f)(ii), and (g) (M175) (310)

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
DOE O 433.1B, Admin Chg 1 (342)	04/21/10 (342)	Maintenance Management Program for DOE Nuclear Facilities (342)	The order is effective regardless of comment above at (b) and implemented in accordance with Note 13. (342)
DOE O 435.1, Chg 1, CRD	08/28/01	Radioactive Waste Management.	Implementation of this DOE CRD using the graded approach; approved by 05-WED-047; CCN 136281 satisfies the comment above at (b). (M130) (M175) (278)
DOE M 435.1-1	07/09/99	Radioactive Waste Management Manual	Contract Clause C.8, Specification 2, 2.2.1.13, 2.2.2.23, & 2.4 (M175)
DOE M 441.1-1, CRD	03/07/08	Nuclear Material Packaging	The manual is effective regardless of comment above at (b) (M130) (M175)
DOE O 442.2, CRD	07/29/11	Differing Opinions for Technical Issues Involving Environment, Safety, and Health **(271)**	The order is effective regardless of comment above at (b) and implemented as described in CCN 246747.
DOE O 442.1A & Supplemente d Rev. 3 CRD (332)	06/06/01	Department of Energy Employee Concerns Program (A029) (293)	The order is effective regardless of comment above at (b) (M175) and implemented as described in CCN 249676. **(293)** Contractor shall implement in accordance with CCN 266683. (332)
~~DOE M 442.1-1 CRD~~		DELETED (271)	
~~DOE M 450.4-1, CRD~~		DELETED (310)	
DOE M 470.4-1, CRD	08/26/05	Safeguards and Security Program Planning and Management (M136) (M171)	Refer to Note 1 (M175)

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
~~DOE M 470.4-2A, CRD~~		DELETED (310)	
DOE M 470.4-4A	01/16/09	Information Security Manual (M145)	Refer to Note 2 (M175)
DOE O 471.3, CRD	4/9/03	Identifying and Protecting Official Use Only Information (M087)	Contract Clause H.50 (M175)
DOE M 471.3-1, Chg 1, CRD	4/9/03	Manual for Identifying and Protecting Official Use Only Information (M087) (310)	Contract Clause H.50 (M175) Refer to Note 12 (310)
DOE O 475.1, CRD	12/10/04	Counterintelligence Program (M071)	Contract Clause C.6, Standard 8(c) (M175)
DOE/RW-0511, Volume I, Rev. 4	03/07/2008	Integrated Interface Control Document (IICD), High-Level Radioactive Waste and U.S. Department of Energy and Naval Spent Nuclear Fuel to the Civilian Radioactive Waste Management System (M114)	Contract Clause C.8, Specification 1,1.2.1.5 and 1.2.2.1.1 **(321)**
DOE O 551.1D, CRD	04/02/12	Official Foreign Travel. Refer to Note 4. (M141) (M175) (283)	Contract Clause I.109 (M175). Implemented in accordance with CCN 243970 and 12-WTP-0272 (CCN 251792). (283)
DOE-HDBK-1092-2004, Appendix A	12/2004	DOE Electrical Safety Handbook. Refer to Note 6 (209)	The order is effective regardless of comment above at (b).
~~RL/REG-2000-04~~		DELETED (215)	
~~DOE/ORP-2000-06~~		Deleted through Contract Modification M082 (M175)	
~~DOE STD 3009~~		DELETED (310)	
~~DOE O 5480.20A, Change 1, CRD~~		DELETED (310)	

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
SCSP	5/9/06	Richland Regional Office Site Counterintelligence Support Plan Hanford Site - Bechtel National, Inc. (M071)	Contract Clause C.6, Standard 8(c) (M175)
DOE-0361	03/28/11	Hanford Site-Wide Emergency Planning and Community Right-to-know Act (EPCRA) procedure (310)	The order is effective regardless of comment above at (b).
HNF-EP-0063	02/01/11	Hanford Site Solid Waste Acceptance Criteria (310)	The order is effective regardless of comment above at (b).
DOE/RL-92-36 (342)	11/18/14	Hanford Site Hoisting and Rigging Manual (342)	The order is effective regardless of comment above at (b) and implemented in accordance with Note 13.
DOE/RL-2001-36, Rev 1E, Appendix I.7	05/01/11	ILAW Special Packaging Authorization of the Hanford Sitewide Transportation Safety Document (310)	Implemented per C.8, Specification 2, 2.2.1.21 and 2.2.2.10. (293)
DOE O 151.1C, CRD	11/02/05	Comprehensive Emergency Management System (310)	Implemented in accordance with DOE/RL-94-02.
DOE O 473.3, CRD	06/29/11	Protection Program Operations (310)	The order is effective regardless of comment above at (b).
DOE O 426.2, CRD	04/21/10	Personnel Selection, Training, Qualification, and Certification Requirements for DOE Nuclear Facilities (310)	Contract Clause C.3(f)(6) (321), Refer to Note 8 (310)
DOE O 225.1B	03/04/11	Accident Investigations (310)	Refer to Note 9 (310)
DOE STD 3009	1994	Preparation Guide for DOE Nonreactor Nuclear Facility Safety Analysis Reports (Change Notice 3, March 2006) (A029) (M152) (321)	Contract Clause C.6, Standard 9, paragraph 2. (321)

DOCUMENT NUMBER	DATE	TITLE	CROSS REFERENCE
DOE-HDBK-1092-2013, Appendix D	07/2013	DOE Electrical Safety Handbook. Refer to Note 15 (353)	The order is effective regardless of comment above at (b).

Notes:

1. Implementation of DOE M 470.4-1, CRD includes the following Sections:
   - Section A, *Safeguards and Security Program Planning and Management*
   - Section F, *Performance Assurance Program*
   - Section G*, Survey, Review, and Self-Assessment Programs*
   - Section I, *Facility Clearances and Registration of Safeguards and Security Activities*
   - Section J, *Safeguards and Security Training Program*
   - Section K, *Safeguards and Security Awareness Program*
   - Section N*, Incidents of Security Concern*

   Please refer to CCN 182640 for detailed information on the implementation of each section.
2. Contractor scope of DOE M 470.4-4A is limited to the OPSEC requirements listed in ORP Letter 08-ESQ-318 (CCN 192555) which states that the following actions are required:
   - Appoint an OPSEC Representative;
   - Ensure the OPSEC Representative attend Hanford OPSEC Working Group meetings on a quarterly basis;
   - Obtain OPSEC/Security Awareness Posters from Project Hanford Management Contracts Safeguards and Security Awareness Manager and ensure they are posted in BNI working areas; and
   - Annually conduct three OPSEC Reviews/Assessments of BNI work areas.
3. The Contractor shall implement DOE O 221.1, CRD and DOE O 221.2, CRD into all new subcontract awards beginning January 1, 2003, except for those acquisitions for commercial items and for any new acquisition awards under $100,000. DOE O 221.1A, DOE and DOE O 221.2A, CRD shall be implemented into all new subcontract awards beginning October 01, 2008, using the same criteria. Flow down of the requirements of these DOE Order CRDs to Subcontractors using these criteria meets the intent of ensuring compliance with the DOE Order CRD requirements.
4. This Order deemed to be the "subsequent version of the order in effect at the time of award" per DEAR 952.247-70.
5. DELETED (336)
6. The Contractor shall implement DOE-HDBK-1092-2004, Appendix A, as described in 10-WTP-327 (CCN 229364) and CCN 229141.
7. The Contractor shall implement DOE O 413.3B, as described in CCN 242792 and 12-WTP-0159.
8. The Contractor shall implement DOE O 426.2, CRD, as described in CCN 249671.
9. The Contractor shall implement DOE O 225.1B, as described in CCN 249671.
10. The Contractor shall implement DOE O 210.2A, CRD, as described in CCN 249671.
11. The Contractor shall implement DOE O 226.1B, CRD, as described in CCN 249671.
12. The Contractor shall implement DOE M 471.3-1, Chg 1, CRD, as described in CCN 249671.
13. The Contractor shall implement DOE O 433.1B, Admin Chg 1 & DOE-RL-92-36, as described in CCN 202791.
14. The Contractor shall implement DOE O 414.1D, CRD, Chg 1, as described in CCN 222763 and 15-QAD-0014.
15. The Contractor shall implement DOE-HDBK-1092-2013, Appendix D, as described in 14-CPM-0231 (CCN 274546) and CCN 257008. Unlisted Equipment that is "Low-Hazard", defined as "Class X.0 or X.1" in Appendix D of the DOE Handbook for Electrical Safety, may be labeled or identified as such (e.g., "Unlisted Approval Not Required", "Low-Hazard", or "Class X.0, X.1") to indicate it is equipment that does not require field evaluation and approval. This exemption will only apply to Class X.0 and Class X.1 equipment that are connected to a power source of less than 50 Volts and less than 1000 volt-amps.

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT F – KEY PERSONNEL

Key Position **(M110) (M130) (M133) (M147) (M152) (M158) (A164) (M181) (206) (208) (242) (261) (276) (291) (303) (308) (332) (336) (353)**	**Current Employee**
Project Director	Margaret McCullough
Project Manager	Joseph St. Julian
Manager of Design, Operations & Integration	Edward (Ward) Sproat
Manager of Environment, Safety & Health	Richard Nugent
Manager of Nuclear Safety Engineering	Robert (R.T.) Brock
Manager of Quality	Thomas Hughes
Plant Operations Manager	Ken Wells
Project Technical Director & Design Authority	Ian Milgate
Manager of Production Engineering	Mark Johnson
Manager of Construction	Brian S. Kerr
Business Services Manager	Lori Baker

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT G – PERFORMANCE GUARANTEE AGREEMENT

For value received, and in consideration of: and in order to induce the United States (the Government) to enter into Contract DE-AC27-01RV14136 for the design, construct, and commission of the Waste Treatment and Immobilization Plant (WTP) to treat and immobilize Hanford tank waste (Contract dated, December 11, 2000), by and between the Government and Bechtel National, Inc. (Contractor), the undersigned, Bechtel National, Inc.(Guarantor), a corporation incorporated in the State of Nevada with its principle place of business at 45 Fremont Street, San Francisco, CA 94105, hereby unconditionally guarantees to the Government (a) the full and prompt payment and performance of all obligations, accrued and executory, which Contractor presently or hereafter may have to the Government under the Contract, and (b) the full and prompt payment and performance by Contractor of all obligations and liabilities of Contractor to the Government, fixed or contingent, due or to become due, direct or indirect, now existing or hereafter and howsoever arising or incurred under the Contract, and Guarantor further agrees to indemnify the Government against any losses the Government may sustain and expenses it may incur as a result of the enforcement or attempted enforcement by the Government of any of its rights and remedies under the Contract, in the event of a default by Contractor hereunder, and/or as a result of the enforcement or attempted enforcement by the Government of any of its rights against Guarantor hereunder.

Guarantor has read and consents to the signing of the Contract. Guarantor further agrees that Contractor shall have the full right, without any notice to or consent from Guarantor, to make any and all modifications or amendments to the Contract without affecting, impairing, or discharging, in a whole or in part, the liability of Guarantor hereunder.

Guarantor hereby expressly waives all defenses which might constitute a legal or equitable discharge of a surety or guarantor, and agrees that this Performance Guarantee Agreement shall be valid and unconditionally binding upon Guarantor regardless of (i) the reorganization, merger, or consolidation of Contractor into or with another entity, corporate or otherwise, or the liquidation or dissolution of Contractor, or the sale or other disposition of all or substantially all of the capital stock, business or assets of Contractor to any other person or party, or (ii) the institution of any bankruptcy, reorganization, insolvency, debt agreement, or receivership proceedings by or against Contractor, or adjudication of Contractor as a bankrupt, or (iii) the assertion by the Government against the Contractor of any of the Governments rights and remedies provided for under the Contract, including any modifications or amendments thereto, or under any other document(s) or instrument(s) executed by Contractor, or existing in the Government's favor in law, equity, or bankruptcy.

Guarantor further agrees that its liability under this Performance Guarantee Agreement shall be continuing, absolute, primary, and direct, and that the Government shall not be required to pursue any right or remedy it may have against Contractor or other Guarantors under the Contract, or any modifications or amendments thereto, or any other document(s) or instrument(s) executed by Contractor, or otherwise. Guarantor affirms that the Government shall not be required to first commence any action or obtain any judgment against Contractor before enforcing this Performance Guarantee Agreement against Guarantor, and that Guarantor will, upon demand, pay the Government any amount, the payment of which is guaranteed hereunder and the payment of which by Contractor is in default under the Contractor or under any other document(s) or instrument(s) executed by Contractor as aforesaid, and that Guarantor will, upon demand, perform all other obligations of Contractor, the performance of which by Contractor is guaranteed hereunder.

Guarantor agrees to assure that it shall cause this Performance Guarantee Agreement to be unconditionally binding upon any successor(s) to its interests regardless of (i) the reorganization, merger, or consolidation of Guarantor into or with another entity, corporate or otherwise, or the liquidation or dissolution of Guarantor, or the sale or other disposition of all or substantially all of the capital stock, business, or assets of Guarantor to any other person or party, or (ii) the institution of any bankruptcy, reorganization, insolvency, debt agreement, or receivership proceedings by or against Guarantor, or adjudication of Guarantor as a bankrupt.

Guarantor further warrants and represents to the Government that the execution and delivery of this Performance Guarantee Agreement is not in contravention of Guarantor's Articles of Organization, Charter, bylaws, and applicable law; that the execution and delivery of this Performance Guarantee Agreement, and the performance thereof, has been duly authorized by the Guarantor's Board of Directors, Trustees, or any other management board which is required to participate in such decisions; and that the execution, delivery, and performance of this Performance Guarantee Agreement will not result in a breach of, or constitute a default under, any loan agreement, indenture, or contract to which Guarantor is a party or by or under which it is bound.

No express or implied provision, warranty, representation or term of this Performance Guarantee Agreement is intended, or is to be construed, to confer upon any third person(s) any rights or remedies whatsoever, except as expressly provided in this Performance Guarantee Agreement.

In witness thereof, Guarantor has caused this Performance Guarantee Agreement to be executed by its duly authorized officer, and its corporate seal to be affixed hereto on.

BECHTEL NATIONAL, INC.

Original Signed By
T. F. Hash, President

GUARANTEE AGREEMENT ON
BEHALF OF GUARANTOR

I, D.W. Price, certify that I am the Assistant Secretary of the corporation named as Guarantor herein; that T.F. Hash who signed this certificate on behalf of the Guarantor, was then President of said corporation; that said certificate was duly signed for and in behalf of said corporation, and is within the scope of its corporate powers; that I have caused the corporate seal to be affixed hereto.

Original Signed By
D. W. Price, Assistant Secretary

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT H
TANK FARM CONTRACTOR STAFF AND SUBCONTRACTORS EMPLOYED ON THE WTP PROJECT

Staffing

The Tank Farm Contractor hired a total of 183 staff from BNFL Inc. and Bechtel National Inc. that were previously supporting the Waste Treatment and Immobilization Plant (WTP) activities; approximately 138 are currently identified as available for transition to the WTP Contractor. Discipline and experience are as follows:

INTERIM DESIGN CONTRACTOR EMPLOYEES EXPERIENCE
SUMMARY AS OF 8/30/00

DISCIPLINE	SENIOR LEVEL	JUNIOR LEVEL (1-5 Years)	YEARS EXPERIENCE	AVERAGE YEARS EXPERIENCE
Engineers:				
Managers	2	0	18-30	18
Process Engineers	9	2	1-33	16
Civil/Structural	7	1	1-35	23
Mechanical	17	5	1-33	18
HVAC	21	0	7-35	25
Elect, I&C	18	0	9-39	24
Architectural	2	1	1-21	13
Construction Engineering	1	0	9	9
Quality Assurance	2	0	25-30	28
Layout/Design	2	0	18-35	27
Subtotal	81	9		
Designers:				
Civil/Structural	3	1	4-36	21
Mechanical	19	2	3-34	21
HVAC	5	0	7-20	16
Piping	5	0	10-25	22
Elect, I&C	2	0	14-35	23
Layout	9	2	2-15	7
Subtotal	43	5		
Total	124	14		
Total Interim Design	**138**			

Subcontracts

The Tank Farm Contractor placed subcontracts with 27 firms; providing about 260 total staff supporting the design, science and technology, and ongoing operations roles. Most of the staff augmentation contracts will be available for transition to the WTP Contractor. Summary of contracts, scope, and numbers of staff identified includes:

Subcontractor	Current Scope	Number of Staff
Associated Western Universities	Summer Interns	5
EnergX	Staff Augmentation	2
ESG (ESG Technical Services)	Staff Augmentation	3
Enabling Technology	Staff Augmentation	1
Fircroft	Staff Augmentation	51
Global Environmental	Staff Augmentation	1
GTS-Duratek	Staff Augmentation	19
Individual Consultants (7 each) Doug Campbell Gary Dukelow Mike Fox Bruce Hensley William Roe Gene Schroeder John Deichman	Staff Augmentation	7
Kelly Temporary Services	Staff Augmentation	31
LATA (Los Alamos Technical Associates)	Staff Augmentation	8
Manpower	Staff Augmentation	3
MCE (Mid-Columbia Engineering)	Staff Augmentation	7
MH Chew	Staff Augmentation	2
Noramtec	Staff Augmentation	30
Onsite Engineering	Staff Augmentation	15
Project Time & Cost	Staff Augmentation	3
SAIC (Science Applications International Corp.)	Staff Augmentation-safety, permitting, and design	44
Scientech	Staff Augmentation	2
SCM	Staff Augmentation	8
TRI (Technical Resources International)	Staff Augmentation	13
Vista Engineering	Staff Augmentation	5

Science and Technology Support

The Tank Farm Contractor will have established work orders with Savannah River Technology Center (SRTC), GTS-Duratek (including the Vitreous State Laboratory (VSL) at Catholic University), Pacific Northwest National Laboratory, and IBC, Inc. for significant Science and Technology (S&T) support to the WTP Project in the following areas:

S&T Provider	Scope
SRTC	Chemical and radiochemical separations, waste form qualification
PNNL	Chemical and radiochemical separations, waste form qualification
GTS-D	Pilot melter testing, melter testing, and glass development
IBC, Inc.	Ion exchange media development and testing

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT I – FUNDING PROFILE

Fiscal Year (FY)	Budget Authority ($1M)*
2001	$ 348**
2002	$ 671**
2003	$ 676**
2004	$ 682**
2005	$ 695**
2006	$ 487**
2007	$ 614**
2008	$ 741**
2009	$ 690
2010	$ 690
2011	$ 740
2012	$ 840
2013	$ 970
2014	$ 890
2015	$ 790
2016	$ 600
2017	$ 380
2018	$ 355
2019	$ 240
2020	$63

*Includes Contractor Fee
** Actual Funding Amounts As of Modification No. A143

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT J
ADVANCE UNDERSTANDING ON COSTS

1. Allowable costs for WTP project-specific travel and relocation shall be in accordance with the Bechtel Systems & Infrastructure, Inc. (BSII) policy dated January 1, 2010 (Revision 15), effective January 1, 2010 **(A164)**, submitted under BNI letter CCN 210586 dated December 30, 2009 **(A164)**. However, payments made under 2.7 d) [previously 3.7 d) under Revision 3] and 3.17 c) therein for tax assistance "gross up" shall be an unallowable cost prior to July 29, 2002, and an allowable cost thereafter. **(M134)**

2. Allowable costs for WTP project-specific BNI employee permanent assignment compensation benefit shall be in accordance with the BNI Project Assignment Incentive (PAI), Revision 10 (dated February 2008), effective April 01, 2008.

   Historical Notes:
   - The tax assistance portion "gross-up" of the PAI, in effect until February 26, 2007, shall be an unallowable cost. This "gross up" was eliminated with the issuance of PAI, Revision 9.
   - The minimum 150-mile limit for recruited college students from Washington State University (Pullman Campus only) and Eastern Washington University (Cheney campus only) is waived and PAI payments for such eligible recruited employees shall be allowable, subject to other allowability tests required under the contract, until April 01, 2008, at which time the limit was eliminated with PAI, Revision 10. **(M126)**

3. During 2001, BNI implemented an internal Six Sigma Program to provide a clear means of work process measurement and continuous process improvement that is expected to result in a net overall reduction in incurred costs under the Contract. Costs to implement the BNI Six Sigma Program are considered allowable costs under the Contract, subject to other required tests of allowability under the Contract, the Federal Acquisition Regulation, and the Department of Energy Acquisition Regulation.

4. Costs to implement the BNI Sharing For Success Program to enhance craft productivity and reduce overall project costs are considered allowable costs under the Contract, subject to other required tests of allowability under the Contract, the Federal Acquisition Regulation, and the Department of Energy Acquisition Regulation.

5. Effective from the date of Contract award, facilities capital cost of money shall be an allowable cost under the Contract, provided the criteria for allowability in FAR 31.205-10 are met.

6. Costs to implement the BNI Employee Recognition Program to support individual and team accomplishments and encourage the achievement of Project goals are considered allowable costs under the Contract, subject to other required tests of allowability under the Contract, the Federal Acquisition Regulation, and the Department of Energy Acquisition Regulation.

7. Costs incurred in connection with hedging contracts entered into in connection with foreign currency purchases, including but not limited to the purchase cost, rollover costs to adjust a hedging contract to a new date in the event the payment date is delayed, and closure costs in the event a procurement is canceled, are considered allowable costs under the Contract, subject to other required tests of allowability under the Contract, the Federal Acquisition Regulation, and the Department of Energy Acquisition Regulation.

8. Costs to implement the BNI Vanpool Program to encourage project craft and nonmanual vanpooling are considered allowable costs under the Contract, subject to other required tests of

allowability under the Contract, the Federal Acquisition Regulation, and the Department of Energy Acquisition Regulation.

9. Costs incurred in connection with the Washington State Retrospective Rating Program connected with Workers Compensation, including but not limited to surcharges, are considered allowable costs under the Contract, subject to other required tests of allowability under the Contract, the Federal Acquisition Regulation, and the Department of Energy Acquisition Regulation.

10. Multi-Employer Pension Plan (MEPP) **(M152)**

    a. The costs and expenses of the Contractor's participation in the Multi Employer Pension Plan (MEPP) are allowable contract costs to the same extent as those costs are allowable under Contract No. DE-AC06-96RL13200 (Fluor) through August 23, 2009, and Contract No. DE-AC06-09RL14728 (MSA) thereafter **(206)**.

    b. In the event that the Contractor withdraws from the MEPP, in accordance with the terms of the MEPP, the Contractor's withdrawal liability, if any, shall be an allowable cost of the Contract subject to availability of funds under the contract.

    c. In the event that the MEPP is overfunded at the time of the Contractor's withdrawal and the Contractor does not receive a cash disbursement of its share of such overfunding, ORP hereby waives the Contractor's obligations, if any, under FAR 52.215-15(b) to make payments to DOE, or otherwise adjust the Contractor's allowable costs, with respect to any amounts otherwise assessed in accordance with CAS 413-50(c)(12).

    d. In the event that the Contractor becomes the last sponsoring employer of the MEPP, the Parties shall modify this agreement to address appropriate termination provisions and funding requirements.

    e. This Advance Understanding shall be revised from time to time to incorporate any changes in the those policies, practices, and procedures the related costs and expenses related to the MEPP.

11. The following Pending Items and Trends are incorporated by reference in Modification A029.

Case No.	Title
	Issued to ORP
4	PI-24590-01-00065 Additional Security Badging Requirements
18	PI-24590-01-00093 Model Recovery, Maintainability, and RAMI Development
6	PI-24590-01-00099 Construction Emergency Response Plan (Addendum for FH site emergency preparedness program)
21	PI-24590-01-00112 Addition of C2 Filtration (HEPA) to Pretreatment, LAW and HLW Facilities
	PI-24590-01-00117 Commissioning Maintenance Requirements
17	PI-24590-01-00118 Plant Operator Qualification & Training Facility
	PI-24590-01-00119 Commissioning Materials & Vendor Support
	PI-24590-01-00120 Commissioning Testing and Operations Requirements
	PI-24590-01-00121 Risk Assessment and Reporting
19	PI-24590-01-00122 Analytical Laboratory and Temporary Laboratory Facilities
	PI-24590-01-00131 Hazards/Accident Analysis Post PSAR Submittal
	PI-24590-01-00133 Commissioning Procedure Writers
	PI-24590-01-00135 QC Support to Commissioning
	PI-24590-01-00136 Commissioning Training
	PI-24590-01-00138 Environmental Interface
	PI-24590-01-00140 Operation Authorization Request (OAR) Development and

Case No.	Title
	Authorization Basis Maintenance
	PI-24590-01-00142 Compliance with ISMS DEAR Clause, Safeguards and Security
	PI-24590-01-00143 Pilot Scale Facility
10	PI-24590-01-00147 Pulsed Jet Mixer Testing
16	PI-24590-01-00150 LAW Canister Level Control
	PI-24590-01-00153 A1-Incomplete WTP Conceptual Design – NOC & Sanitary Sewer
	PI-24590-01-00153 A2 – Incomplete WTP Conceptual Design – SAP & CAR
	PI-24590-01-00153 B – Incomplete R&T WTP Conceptual Design work (5 Pis)
19	PI-24590-01-00154 HLW Melter Cell Reconfiguration Due to LAB Reconfiguration
13	PI-24590-01-00165 Vitrification, Rheology & Regulatory Analysis for the Rework of AZ-102 (Envelope B)
2	PI-24590-01-00170 LAW Annex Modifications
23	PI-24590-01-00181 Operations & Maintenance C3 Area Temperatures
23	PI-24590-01-00194 Study Associated with C3 Temperatures
	PI-24590-01-00197 Technical Integration Baseline Development Team
	PI-24590-01-00201 LAW Throughput Increase to 45 MTG
	PI-24590-01-00246 ES&H Fire Protection Support Program
27	PI-24590-01-00278 Change in LAW Concrete and Structural Steel Quality Class
	PI-24590-01-00309 Revised Scale-Up Ion Exchange Resin Quantities
	PI-24590-01-00311 Radiological Safety Support
3	PI-24590-02-00335 LAW Bubbler Failures Below the Melt Line
	2001 Approved Trends
1	PI-24590-01-00173 Detailed Study & Process Plan for Resolving Mercury Issues in Waste Feed
14	PI-24590-01-00174 Maximum Achievable Control Technology
14	PI-24590-01-00316 Mercury mitigation for LAW Melter & Offgas
14	PI-24590-01-00327 Incorporate Activated Carbon Column in HLW Melter Offgas
	PI-24590-01-00143 PT Integrated Pilot Facility – Infrastructure & Testing IX Processes
	2002 Approved Trends
12	PI-24590-02-00341 Radiological Monitoring Standards Change from ANSI-N13.1-1969 to 1999
7	PI-24590-02-00356 Critical Decision 3 – Extended Independent Review
22	PI-24590-02-00358 Steam Reformer Technology Demonstration Acquisition
20	PI-24590-02-00382 Evaluate and Test CS & TC Exchange Resins
15	PI-24590-02-00395 DOE Order 420.1 Fire Safety Impact Assessment Study
	PI-24590-02-00396 Melt Pool Corrosion of LAW Bubblers (Part 2)
	PI-24590-02-00398 Evaluation of Seismic Safety DOE 420.1 Impact
	PI-24590-02-00405 LAB – Cost Reductions
	PI-24590-02-00415 Initial Testing of Steam Reforming Waste Product
	PI-24590-02-00431 DWPA Phased Approach
	PI-24590-02-00447 Pour Tunnel Catch Tank
	PI-24590-02-00453 Increase Pour Cave Cooling
	PI-24590-02-00508 Sales and Use Tax
25	PI-24590-02-00516 Regulatory Compliance Matrix
	PI-24590-02-00539 Lab Rad Effluent Line
	PI-24590-02-00550 Develop Implementation Plan & Start Testing of Alt. Resins
	PI-24590-02-00581 Mixing Tests and Computational Fluid Dynamic Modeling by

Case No.	Title
	R&T for PT and HLW
	PI-24590-02-00586 Delete BOF Encapsulation Facility from WTP
	PI-24590-02-00587 Modify BOF Spent Melter Staging Facility
	PI-24590-02-00589 Eliminate BOF Melter Assembly Building
	PI-24590-02-00590 Delete BOF Central Waste Storage Facility
	PI-24590-02-00591 Eliminate BOF Administration Building from WTP Site
	PI-24590-02-00601 Modification to HLW Melter Cave Support Handling System Shielding/Containment and Decontamination
	PI-24590-02-00635 Mercury – Sulfur Impregnation Carbon Tests
	PI-24590-02-00637 Mercury R&T Studies
	PI-24590-02-00665 Replace Welded Sealing of LAW Containers with Mechanical Sealing
	PI-24590-02-00666 Eliminate Tc Ion Exchange System (pending approval)
	PI-24590-02-00688 Stage 1 Cs Alternative Resin Testing
	PI-24590-02-00700 Develop Estimate for Implementing DOE Order 435.1
	PI-24590-02-00706 2 + 2 Melter Option
	PI-24590-02-00723 Commissioning and Training Cost Savings Initiatives
	PI-24590-02-00725 Schedule Impact of Cumulative Changes
	PI-24590-02-00728 Alternate Cesium Ion Exchange Resin Testing: Stages II & III
	PI-24590-02-00742 Develop Supplemental EIS Data Package
	PI-24590-02-00744 Include Battelle R&T Sample Residue Handling & Disposal
	PI-24590-02-00754 Foreign Travel Coordinator DEAR 952-247-70
	PI-24590-02-00758 Replace Uniform Building Code with International Building Code for Fire Proofing Design
	PI-24590-02-00779 Trend Implementation Variance vs. Approved ROM
	PI-24590-02-00782 R&T Testing of Ion Exchange Pressure Drop Issue

All items above may have subsequent update revisions, interpretations, or other clarifications that are agreed to by letter. Such updates shall be deemed to be incorporated by reference where stated.

12. The Contractor's Employee Referral Bonus Program is an allowable cost for a period of two years, from March 26, 2007 to March 25, 2009, with a not-to-exceed total cost of $150,000, and one year from March 4, 2014 with a not-to-exceed total cost of $100,000. The Contractor shall prorate the $2,500 bonus over the new hire's first year of employment should the new hire leave the project prior to completing one year of employment (332). The policies establishing the program, and the applicable time periods are:

    - Program as contained in contractor letter, CNN 146882, dated March 13, 2007, applies to the period March 26, 2007 through March 25, 2008.
    - Program as contained in contractor letter CCN 162480, dated April 1, 2008, applies to the period March 26, 2008 through March 25, 2009. **(M086, M123)**
    - Program as contained in contractor letter CCN 259128, dated December 13, 2013, and DOE letter CCN 266666, dated March 4, 2014, applies to the period March 4, 2014 through March 3, 2015 (332).

13. The following requirements are incorporated into and made a part of this contract. Not-To-Exceed amounts for these items have been authorized. The items listed in Table 13-A were definitized by Modification No. A143. **(M101) (M130) (M136) (A143) (M155)**

13-A. Not-To-Exceeds Definitized by Modification No. A143 (M155)	
DOCUMENT ID.	**TITLE**
TN 24590-03-01341	Seismic Attenuation Study to Support ORP **(M101)**
TN 24590-03-01071	Maximum Achievable Control Technology/ Destructive and Removal Efficiency Testing **(M101)**
TN 24590-03-01318	Supplemental LAW Treatment Study **(M101)**
TN 24590-03-01317	QA Testing of HEPA Filters at DOE Filter Test Facility (FTF) **(M101)**
TN 24590-03-01482	Earned Value Management System (EVMS) Criteria Crosswalk **(M101)**
TN 24590-03-01315	PTF Black Cell Access Trend **(M101)**
TN 24590-03-01213	Concentrate Receipt Vessels (CRV) Deletion **(M102)**
TN 24590-05-01906	PNNL Seismic Borehole Drilling Support **(M102)**
TN 24590-06-01930	Technical Feasibility Study of WTP Startup Sequencing **(M098) (M130)**
TN 24590-06-02430	Perform Impact Assessment of Borehole Data **(M098) (M130)**
BCP-24590-06-03419	Implementation of ASME NQA-1 2000 and QARD Revision 18 for performance by BNI subcontractor Duratek, Inc. **(M135)**
ORP 08-AMD-213 (10/06/08) (CCN 187713) TN 24590-06-03628	DOE ORP Direction to Cancel the Temporary Low Activity Waste (LAW) Melter Assembly Building Procurement **(M141)**

13-B. Not-To-Exceeds Not Included in Modification No. A143 Definitization (M155)		
DOCUMENT ID.	**TITLE**	**DEFINITIZATION MODIFICATION NO.**
BCP-24590-06-02279	Expansion of DWP Requirements (permit Modifications) **(M122) (M130)**	A193
ORP 08-NSD-011 (05/20/08) (CCN 179512) TN 24590-06-03487	ORP Direction to Implement New Preliminary Safety Analysis Report (PSAR) Updates **(M136)**	A164
ORP 08-NSD-057 (10/09/08) (CCN 188218) TN 24590-06-03752	Direction to Implement New Safety Classification Process for the Waste Treatment and Immobilization Plant (WTP) (M141)	276
ORP 08-NSD-059 (10/15/08) (CCN 188217) TN 24590-06-	Direction to Implement New Justification for Continued Design, Procurement, and Installation (JCDPI) (M152)	A164

03753		
Modification M090 & 09-AMD-205 (07/18/08) (CCN 202423) TN 24590-06-02145 & -02381	Direction to Implement DOE 205.1A, Cyber Security Management Program (M155)	217
Modification M154 TN 24590-06-04133	Direction to Implement Pretreatment Engineering Platform (PEP) dry layup (M155)	A167
Modification M196 BCP 24590-06-04489 BCP 24590-06-04784 BCP 24590-06-05085	Direction to Implement Multiple Operational Readiness Strategy (218)	282
Modification M196 BCP 24590-06-04853 ORP 10-AMD-139 (05/06/10; CCN 218244)	Direction to Implement CXP Equipment Option (218)	317
Modification 221 ORP 11-WTP-219 (06/17/11; CCN 236247); Modification 247 ORP 11-WTP-437 (12/01/11; CCN 242351); Modification 264 ORP 12-WTP-0109 (03/15/12; CCN 245985); Modification 286 ORP 12-WTP-317 (09/24/12)	Direction to Proceed with Large Scale Testing (MOD 221, MOD 247, MOD 264, MOD 286)	299 - Partial
Modification 273	Direction to participate in the Hanford Site Organizational Climate and Safety Conscious Work Environment (SCWE) Survey	290
Modification 245 ORP 11-WTP-429	Direction to proceed with the implementation of DOE Order (O) 420.1B, *Facility Safety*, Chapter V, *Systems Engineer Program*. (245)	276
Modification 300 ORP 13-CPM-0099 (05/06/13); Mod 304 ORP 13-CPM-0133 (06/05/13); Modification 313 ORP 13-CPM-0299 (11/25/13)	Direction to Proceed with Full Scale Vessel Testing Program in lieu of the existing Computational Fluid Dynamics and Large Scale Vessel testing Program as a Design Verification Tool (300, 304, 313)	
Modification 329 ORP 14-CPM-0172	Direction to proceed with Section C, Statement of Work, Standard 3 Design, paragraph (i) Design of BOF Utility Modifications	**350**
Modification 330 ORP 14-CPM-0181	Direction to proceed with Section C, Statement of Work, Standard 3 Design, paragraph (j) Design of BOF Effluent Management Facility	**350**

Modification 334 ORP 14-CPM-0228, ORP 15-CPM-0300 (358)	Direction to proceed with Pretreatment Facility vessel mixing design verification.	
Modification 339 ORP 15-CPM-0008	Direction to proceed with Section C, Statement of Work, Standard 3 Design, paragraph (k) Design of Balance of Facilities Underground and Site-Wide Modifications necessary to support the Direct Feed of LAW (DFLAW)	**350**
Modification 342 ORP 15-CPM-0064	Direction to proceed with the implementation of DOE Order (O) 433.1B, Maintenance Management Program for DOE Facilities and DOE/RL-92-36, Hoisting and Rigging Manual. (342)	
Modification 344 ORP 15-CPM-0092	Direction to proceed with initiation of procurement of BOF modifications and LAW Valve Vault materials to support DFLAW; add Interface Control Documents 30 and 31	
Modification 348 ORP 15-CPM-0128	Direction to proceed with initiation of BOF isolation construction to support DFLAW	
Modification 349 ORP 15-CPM-0136	Direction to proceed with the implementation of DOE Order (O) 414.1D, CRD, Chg. 1, Quality Assurance. (349)	
Modification 354 ORP 15-CPM-0195	Direction to proceed with procurement of Effluent Management Facility (EMF) equipment and effluent transfer lines and limited EMF construction (354)	

14. (Reserved)

15. (Reserved)

16. The following Advance Agreements are incorporated and made a part of this contract. **(M130)**

TITLE	**REFERENCES**
Offsite Beryllium Medical Exam Costs **(M130)**	CCN 150302 (06-ESQ-166; 28DEC06)
Relocation Costs Associated with Establishing a Frederick, MD WTP Project Office **(M130)**	Advance Agreement signed by J. J. Short/C. E. Rogers 20JUL06; CCN 143197
Steps to Bring BNI Billings and DOE Financial System into Agreement **(M130)**	Advance Agreement signed by J. J. Short/C. E. Rogers 24JUL06; CCN 143195
Costs Related to Safety Award to WTP Construction Site Employees **(M130)**	Advance Agreement signed by T. M. Williams/N. F. Grover 28NOV07; CCN 169002
Costs Related to WTP College Hire Conference **(M130)**	Advance Agreement signed by T. M. Williams/N. F. Grover 08AUG07; CCN 169228
Costs Related to Per Diem Expenses for Certain Employees **(M130)**	Advance Agreement signed by T. M. Williams/N. F. Grover 03JUL07; CCN 169230
Costs Related to Living Away From Home Option	Advance Agreement signed by T. M.

(LAFHO) **(M130)**	Williams/N. F. Grover 12DEC07; CCN 169233
Costs Related to Voluntary Protection Program (VPP) **(M133)**	Advance Agreement signed by T. M. Williams/N. F. Grover 20JUN08; CCN 181338
Costs Related to Per Diem Expenses for Specific Employees July 2008 **(M134)**	Advance Agreement signed by T. M. Williams/N. F. Grover 18JULY08; CCN 184046
Construction Project Review Subsistence **(A197)**	Advanced Agreement described in CCN 224972 (27Oct 10) and approved by R. L. Dawson on 04NOV10; 10-AMD-370 (CCN 227552)
Costs Related to 2011 Safety Award to WTP Construction Site Employees **(285)**	Advanced Agreement described in BNI letter CCN 236919, dated July 26, 2011 and approved by R.L. Dawson in ORP letter 11WTP-264 dated July 29, 2011 (CCN 238015).
Costs Related to Stipend for Mobile Communication Devices **(285)**	Advanced Agreement described in BNI letter CCN 245311, dated September 18, 2012 and approved by R.L. Dawson in ORP letter 12-WTP-0312 dated October 2, 2012 (CCN 252582).

17. Dollar thresholds for obtaining Contracting Officer approval prior to BNI incurring costs for repair or replacement of Government Property resulting from damage, and/or the need for unscheduled non-routine corrective maintenance/rehabilitation – are specified in CCN 220281, Letter from N.F. Grover to R.L. Dawson, "Contract Section J, Attachment J, Item 17 – Thresholds for Repair of Government Property," dated August 4, 2010 and are incorporated into this contract. The Property Administrator is authorized to approve repairs costing less than $25,000. **(M136) (M145) (M186)**

18. Inclusions from Equitable Adjustment Settlement. The Trends and Baseline Change Proposals listed on Attachment J, Sub-attachment A are specifically included in the Statement of Release with Modification No. A143, and are released from any further equitable adjustment. **(A143)**

19. Exclusions from Equitable Adjustment Settlement. The Modifications, Trends and Baseline Change Proposals listed on Attachment J, Sub-attachment B are specifically excluded from the Statement of Release with Modification No. A143, and may be eligible for equitable adjustment provided all Contract change requirements are met. **(A143)**

20. All emergency-related repairs or emergency related maintenance on BNI leased facilities less than or equal to $25,000, no CO approval is required. Alterations made to any BNI leased facility greater than or equal to $100,000, CO approval is required (09-AMD-164 dated May 28, 2009; CCN 200168). **(M155)**

SECTION J – LIST OF ATTACHMENTS

ATTACHMENT K
LISTING OF WTP CONCEPTUAL DESIGN AND SUPPORTING INFORMATION

The following information associated with the Waste Treatment and Immobilization Plant (WTP) Conceptual Design and Supporting Information is provided at http://www.hanford.gov/orp/procure/solicitations/index.html.

The information includes:

(a) Process and Facility Design Documentation and Analyses

Facility Mass and Energy Balances
Process Description
Process and Facility Drawings
Systems Descriptions
Facility Descriptions
Facility Capability Studies
Facility Expansion Capability Study
Interface Control Documents

(b) Construction Planning

Engineering Execution Plan
Construction Strategy
Construction Mobilization Plan
Facility Acceptance Strategy

(c) Technology Planning and Testing Information

Technology Development Plan
Tank Waste Sample Analyses
Technology Test Reports

(d) Waste Form Qualification Strategies

Products and Secondary Wastes Plan
IHLW Waste Compliance Plan

(e) Environmental Permitting Documentation

Dangerous Waste Permit Application
Environmental Plan
Risk Assessment Work Plan
Approach for Immobilized High Level Waste (HLW) Delisting
Approach for Immobilized Low Activity Waste (LAW) Land Disposal Restrictions (LDR) Compliance
Environmental Report Revision

(f) Integrated Safety Management Program, Hazards and Safety Analysis Information

Documentation prepared for, and correspondence between the DE-AC06-96RL13308 Contractor Organization and the U.S. Department of Energy (DOE) Regulatory Unit can be found at http://www.hanford.gov/osr/osr.asp.

(g) Cost and Schedule Documentation

Integrated Master Plan
Government Fair Cost Estimate

(h) Quality Assurance

Quality Assurance Program Description

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT L
SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM TARGETS

A — Bechtel Washington

SIC Code	Description of SIC Major Group	SDB Dollars	Percentage**
N/A			

B — Subcontractors

SIC Code	Description of SIC Major Group	SDB Dollars	Percentage**
23	Apparel and other finished products made from fabrics	$26,880	.0007
25	Furniture and fixtures	248,700	.0063
28	Chemicals and allied products	1,747,750	.0441
34	Fabricated metal products	9,564,827	.2412
36	Electronic and other electrical equipment and components, except computers	15,730,940	.3967
38	Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks	720,120	.0182
48	Communications	711,489	.0179
50	Wholesale trade, durable goods	3,340,970	.0843
51	Wholesale trade, nondurable goods	2,403,444	.0606
52	Building materials, hardware, garden supply, and mobile home dealers	491,220	.0124
73	Business services	125,468	.0032
87	Engineering, accounting, research, management, and related services	16,046,472	.4047
89	Miscellaneous services	512,040	.0129
	Subtotal ***	$51,670,320	1.3032

C — Total (A + B)

SIC Code	Description of SIC Major Group	SDB Dollars	Percentage**
23	Apparel and other finished products made from fabrics	$26,880	.0007
25	Furniture and fixtures	248,700	.0063
28	Chemicals and allied products	1,747,750	.0441

34	Fabricated metal products	9,564,827	.2412
36	Electronic and other electrical equipment and components, except computers	15,730,940	.3967
38	Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks	720,120	.0182
48	Communications	711,489	.0179
50	Wholesale trade, durable goods	3,340,970	.0843
51	Wholesale trade, nondurable goods	2,403,444	.0606
52	Building materials, hardware, garden supply, and mobile home dealers	491,220	.0124
73	Business services	125,468	.0032
87	Engineering, accounting, research, management, and related services	16,046,472	.4047
89	Miscellaneous services	512,040	.0129
	Subtotal ***	$51,670,320	1.3032

Total Estimated Contract Value = $3,965,000,000 143

* SDB participation from industries eligible for the 10% Price Evaluation Adjustment
** All percentages shown as a percent of the estimated total Target Cost
*** Total SDB target cost

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT M
DAVIS-BACON WAGE DETERMINATION

General Decision Number WA20080009, dated February 6, 2009 (M147) is hereby incorporated by reference. (M147)

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT N
ALTERNATIVE DISPUTE RESOLUTION (M147)

Purpose: Contract Clause H.34, "Alternative Dispute Resolution" (ADR) provisions were established to facilitate the early resolution of disputes. This procedure defines the agreed continued ADR process for selection and utilization of a "Standing Neutral" (SN) in the instance an agreement cannot be reached through informal negotiations.

Scope: In recognition of mutual interests, the U.S. Department of Energy, (DOE) and Bechtel National, Inc. (BNI), "the Parties", shall use their best efforts to informally resolve any dispute, claim, question or disagreement ("the issue"), by consulting and negotiating with each other in good faith and attempting to reach a just and equitable solution satisfactory to both Parties. If an agreement cannot be reached through informal negotiations, then such disagreement shall be referred to the SN, pursuant to the
following selection and proceeding process.

Process: When informal negotiations reach an impasse, either Party may initiate the continued ADR process, utilizing a SN, by issuing a written ADR proceeding notification to the other Party. The Party issuing notice shall propose two (2) SN candidates for consideration by the other Party. The proposed candidates shall have proven expertise in the area of disagreement. If a SN cannot be agreed upon within ten (10) business days, the DOE Office of Dispute Resolution shall assist the Parties in this selection. At any point during the ADR proceedings, either Party may acquiesce to the other Party's position and the dispute shall be considered resolved.

It shall be incumbent on both Parties to fully discuss and demonstrate how the issue has or will adversely affect that Party's ability to perform its contractual requirements in a timely and cost efficient manner. Accordingly, within ten (10) business days of the ADR proceeding notification, both Parties shall submit, in writing, a "Resolution Memorandum" (RM) to the other Party and SN defining the issue and describing its recommendation for resolution. The RM shall address all relevant facts, which would include, as appropriate, discussion regarding an alleged impact event, work scope affected, and the contractual and equitable basis for proposed settlement. If any cost and schedule adjustments are recommended, the basis for such adjustments shall be quantified.

Following RM review, the SN shall establish a meeting time and place for convening the ADR meeting. The SN, not later than fifteen *(15)* business days following ADR proceeding notification, shall issue an agenda for the meeting. The agenda shall allow each Party the opportunity to fully explain its position regarding the issue and allow for an exchange of dialogue. The SN shall ensure a meeting attendance sheet is completed and formal meeting minutes are issued to both Parties within three (3) business days of the meeting date.

The Parties shall Jointly meet with the SN to discuss the issue. Each Party shall be allowed up to three (3) representatives for meeting attendance, inclusive of a spokesman, to address the technical, financial, and contractual merits of the issue. Each Party shall be free to select its own representatives as it sees fit. The representative selections shall be identified in writing, by name and title, to the SN and other Party within ten (10) business days following ADR proceeding notification. The Parties and SN shall initially meet, at a mutually agreeable time and place, no later than thirty (30) calendar days from the date of ADR proceeding notification. The need for subsequent meetings shall jointly be agreed.

The SN shall evaluate all facts and provide a written settlement recommendation to both Parties no later than ten (10) business days following the last meeting. The subject recommendation shall discuss, as appropriate, the alleged impact event, perceived work scope affected, and cite its contractual and equitable basis for settlement or rejection. In the instance certain cost and schedule adjustments are recommended, the basis for such adjustments shall be quantified.

Although the SN settlement recommendation shall be considered non-binding, in the interest of early dispute resolution, both Parties shall seriously consider such advisement. The DOE Contracting Officer (CO) shall issue the final DOE written dispute determination to BNI within five *(5)* business days after receipt of the SN's settlement recommendation. BNI shall advise the CO, in writing, of the acceptability of the DOE dispute determination within five (5) business days after Its receipt. The SN shall be copied on all such correspondence.

At this point the ADR process, utilizing a SN, shall be considered closed. If the dispute has not been resolved through the SN process, either Party may request resolution under the Disputes Clause of the Contract.

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT O
LIST OF EXCLUSIONS UNDER FAR 52.225-11 (b)(3) BUY AMERICAN ACT – CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS

Material Description	Modification No.
Purchases under $100,000 for construction material – replacement parts that must be acquired from the original foreign manufacturer or supplier, either directly or indirectly, because such parts are not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality, or use of domestic parts would invalidate manufacturer/supplier warranties, or adversely affects the system safety or performance function. The Contractor must use good faith efforts to acquire construction material that complies with the Buy American Act, and document justification and determination of inapplicability for use of foreign materials in accordance with FAR 25.205(a); and paragraph (c)(1) of this clause. DEAR 925.202 states that if the cost of the materials is expected to exceed $100,000, the Head of the Contracting Activity (HCA) shall approve the determination. The Contractor shall not split acquisitions to avoid exceeding the acquisition threshold stated herein. Acquisition of foreign construction material that exceeds the $100,000 threshold, must be submitted to the Contracting Officer to obtain HCA approval. BNI must submit an annual report to the Contracting Officer for all foreign construction materials purchased under this paragraph. The report shall state the materials, acquisition price, vendor, and country of origin. The Contracting Officer reserves the right to re-negotiate consideration in accordance with FAR 25.205(c) if determined in the Government's best interest.	M184
Purchase of screwed ductile iron fittings and screwed cast iron fittings for the WTP fire protection system under Subcontract No. 24590-CM-HC1-PY21-00002.	M189
Purchase of non-safety Pressure Differential Gauges, with Dial Indication, 4 ½ inch, type 1133, under Subcontract No. 24590-CM-POA-JP01-00001.	M303
Purchase of Tie Rods for Modification to Onsite Safeflex Expansion Joints under Purchase Order 24590-CM-POA-MERK-00001.	M303
Purchase of 41 Colton Vacuum Breakers, Model CVB-200SS under Purchase Order 24590-CM-POA-PY01-00011.	353

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT P
COMPLETION DEFINITION SHEETS FOR INCENTIVE FEE C.1 ACTIVITY MILESTONE COMPLETION INCENTIVE

The following Activity Milestones have been earned and schedule incentive fee paid as of modification 353.

INCENTIVE C.1 - ACTIVITY MILESTONE COMPLETION INCENTIVE FEE COMPLETED MILESTONES

Facility	Milestone Designation	Function	Description	Date Approved	CY	Fee Amount
LAB-01	1GT00E0918	Engineering	Title II Design Complete	05/18/09	2009	$ 3,875,000
BOF-04	1GB16C1050	Construction	Complete Installation of Cathodic Protection System	07/14/10	2010	$ 3,875,000
PTF-02	1GP12CFM02	Engineering	IFC Drawings for Concrete Walls EL 56 - 77 Ft	06/01/09	2009	$ 3,875,000
LAB-02	1GT48P0921	Plant Equip	Receive Waste Transfer System Equipment	02/25/10	2010	$ 3,875,000
LAW-06	1GL14C0915	Construction	Erect Switchgear Building	12/14/09	2009	$ 3,875,000
HLW-02	1GH48P0942	Plant Equip	Receive and Accept Melter Cave 1 Crane Maintenance Shield Door HSH-DOOR-05	12/08/09	2009	$ 3,875,000
PTF-01	1GP14CFM01	Engineering	DOE Approval of M-12 Closure	01/06/10	2010	$ 3,875,000
HLW-05	1GH13C1145	Construction	Erect Structural Steel EL 0 Ft - EL 14 Ft	03/30/10	2010	$ 4,428,000
PTF-03	1GP15CFM03	Engineering	PD Rack Design - IFC Complete	12/17/10	2010	$ 4,428,000
LAB-04	1GT47P1036	Plant Equip	Receive Autosampler (ASX) Equipment	10/28/10	2010	$ 4,428,000
HLW-01	1GHZZE0941	Engineering	Complete HVAC Design (Title II)	07/28/10	2010	$ 4,428,000
HLW-03	1GHZZE1043	Engineering	Civil Engineering Design Complete (Title II)	03/15/11	2011	$ 2,500,000
BOF-02	1GB5MC1043	Construction	Complete Construction Water Treatment Building	06/01/11	2011	$ 4,428,000
PTF-11	1GP12CFM11	Construction	Complete 5th Lift Walls	12/15/11	2011	$ 2,500,000
LAW-03	1GL46P1030	Plant Equip	Melter #2 Lid+Bal of Components Ready for Assembly	01/10/12	2012	$ 4,428,000
HLW-12	1GH14C1352	Construction	Complete Annex Building Weathering	01/13/12	2012	$ 2,500,000
HLW-07	1GH15C1247	Construction	Complete Pipe and Hanger Installtion in PA06	02/07/12	2012	$ 2,500,000
LAW-01	1GL47P0922	Plant Equip	Receive Offgas Mercury Adsorber, PA #09-A EL +48	10/19/09	2009	$ 3,875,000
LAB-03	1GT47C1356	Construction	Complete Installation of Autosampler System	10/10/11	2011	$ 2,500,000
BOF-03	1GB5JC1046	Construction	Complete Chiller Compressor Plant Construction	03/22/12	2012	$ 2,858,000
				SUBTOTAL		**$ 72,926,000**

TO-BE COMPLETED MILESTONES

Facility	Milestone Designation	Function	Description	Date	CY	Fee Amount
LAW-02	1GL36P1027	Plant Equip	CATOX LVP-SKID-0002 Received +Ready to Install	10/06/10	2010	$ 4,428,000
HLW-04	1GH36P1044	Plant Equip	Receive and Accept Plant Wash Vessel: RLD-VSL-8	02/16/11	2011	$ 2,500,000
BOF-01	1GB47P1040	Plant Equip	Receive Anhydrous Ammonia System	02/25/11	2011	$ 2,500,000
PTF-04	1GP30CFM04	Construction	Set Hot Cell Frames for Areas 1, 24, and 25	07/19/11	2011	$ 2,500,000
HLW-09	1GH27C1249	Construction	Set HEPA Filter Housing Installation at EL 14 Ft	08/31/11	2011	$ 2,500,000
HLW-10	1GH36C1250	Construction	Set Offgas Cat Oxidizers: HOP-SCO-1 and 4	12/07/11	2011	$ 2,500,000
PTF-09	1GP31CFM09	Construction	Set PT Vessel FEP-SEP-00001A/1B in Planning Area 02	01/10/12	2012	$ 2,858,000
PTF-05	1GPZZCFM05	Engineering	C&I Design Complete	03/14/12	2012	$ 2,858,000
HLW-06	1GH47C1146	Construction	Set Offgas Carbon Adsorber	05/31/12	2012	$ 2,858,000
PTF-08	1GP30CFM08	Construction	Set Remaining Pretreatment Vessel at EL 0 Ft	08/27/12	2012	$ 2,858,000
PTF-07	1GPZZCFM07	Engineering	Electrical Design Complete	09/04/12	2012	$ 2,858,000
HLW-11	1GH27C1351	Construction	Installation of HVAC Duct at EL 0 Ft Corridors	11/15/12	2012	$ 2,858,000
BOF-06	1GB12C1253	Construction	Complete Emergency Diesel Generator Base Slab	03/14/13	2013	$ 2,500,000
PTF-10	1GP12CFM10	Construction	Complete Concrete Slabs at EL 56 Ft	03/19/13	2013	$ 2,500,000
HLW-13	1GH46C1453	Construction	Set HEME Vessels 2A and 2B at EL 0 Ft	06/12/13	2013	$ 2,500,000
PTF-14	1GP30CFM14	Construction	Set Filter Cave HEME / HEPA / Demister Equipment	11/05/13	2013	$ 2,500,000
PTF-06	1GP47CFM06	Plant Equip	Receipt of all PSA Pipe Racks	11/12/13	2013	$ 2,500,000
HLW-08	1GH15C1248	Construction	Install Pipe and Hangers in PA02B	12/04/13	2013	$ 2,500,000
PTF-16	1GP15CFM16	Construction	Complete Bulk In-cell Pipe Installation	01/30/14	2014	$ 3,333,000
PTF-15	1GP28CFM15	Plant Equip	Receipt of Electrical Equipment in Control Building Electrical Rooms	04/03/14	2014	$ 3,333,000
HLW-16	1GH27C1556	Construction	Set C2V/C3V Air Handling Units at EL 58 Ft	04/21/14	2014	$ 3,333,000
PTF-13	1GP27CFM13	Construction	Air Handling Units EL 98 Ft	05/23/14	2014	$ 3,333,000
PTF-12	1GP14CFM12	Construction	Install Roofing at EL 98 Ft	10/28/14	2014	$ 3,333,000
PTF-18	1GP30CFM18	Construction	Set Hot Cell Major Equipment	10/30/14	2014	$ 3,333,000
LAW-04	1GL00C1505	Construction	Complete Melter #1 Movement into Building	01/07/15	2015	$ 1,667,000
HLW-14	1GH12C1454	Construction	Placement of HLW Concrete Slabs at EL 58 Ft	01/12/15	2015	$ 1,667,000
PTF-19	1GP14CFM19	Construction	Complete Main Building Weathering	02/04/15	2015	$ 1,667,000
LAW-05	1GL00C1515	Construction	Complete Melter #2 Movement into Building	03/09/15	2015	$ 1,667,000
PTF-17	1GP11CFM17	Engineering	Complete Pretreatment Design	03/24/15	2015	$ 1,667,000
HLW-15	1GH46C1555	Construction	Move Melter 1 into Building	04/22/15	2015	$ 1,667,000
BOF-07	1GB28C1360	Construction	Set (2) Emergency Diesel Generators	05/26/15	2015	$ 1,667,000
BOF-05	1GBC2S1463	Start Up	Complete Elec Distrb Sys Testing MVE (Site Energization)	05/29/15	2015	$ 1,667,000
HLW-17	1GH14C1557	Construction	Complete Main Building Weathering	06/16/15	2015	$ 1,667,000
PTF-21	1GPC2CFM21	Construction	Construction Turnover of PIH Crane to Startup	08/10/15	2015	$ 1,667,000
PTF-22	1GPC2CFM22	Start Up	Demonstration of Resin Addition to Ion Exchange Columns	10/19/15	2015	$ 1,667,000
PTF-20	1GPC0CFM20	Construction	Final System Turnover Complete	11/30/15	2015	$ 1,667,000
HLW-18	1GH00C1558	Construction	Construction Commence turnover to Startup (Elec Sys Package)	05/26/16	2016	$ 2,749,000
PTF-23	1GPE2CFM23	E&NS	Submit FSAR 2016 Update	06/29/16	2016	$ 2,749,000
HLW-20	1GHC2S1660	Construction	Final System Turnover Complete	09/22/16	2016	$ 2,749,000
HLW-19	1GHC2S1659	Start Up	Demonstrate Canister Lid Weld	12/21/16	2016	$ 2,749,000
				SUBTOTAL		**$ 100,074,000**

The Activity Milestone Definition Sheets (Contract Fee Milestones) included in Section J, Attachment P herein are only those associated with To-Be Completed Activity Milestones.

CONTRACT FEE MILESTONES

The following conditions apply to all non-time-dependent fee-bearing milestones

- Key predecessor activities listed on the milestone sheets will be complete.
- Bechtel will notify DOE-WTP within five days of milestone completion and provide supporting documentation within 20 days of completion.
- DOE-WTP will confirm completion within 30 days of receiving the documentation.
- Bechtel will provide a listing of any milestone exceptions and open quality documents (including punch lists, construction deficiency reports, non-conformance reports, field changes, and vendor documentation) that do not functionally impact or impede successor activities, along with justification for each one.
- DOE-WTP has the final authority for the acceptance of milestone completions subject to the dispute provisions of the contract.
- Any changes that occur after the achievement of the milestone will not invalidate completion.
- All documents (including memos providing copies of interim documents), drawings, calculations, and specifications will be available for review in Project Document Control and will be readily accessible to DOE-WTP.

Contract Fee Milestones
PTF-04

Facility	Activity ID	Description
PTF	1GP30CFM04	Set Hot Cell Frames for Areas 1, 24, and 25

Milestone Definition

Set into final location the upper and lower support frames located at elevation 0 ft, in areas 1, 24, and 25 of the hot cell room number P-0123, column lines 4 through 24, and E through H (reference PA21).

Area 1 Upper Frame Tag Ref. FRP-JMPS-10002	Area 1 Lower Frame Tag Ref. FRP-JMPS-10001
Area 24 Upper Frame Tag Ref. FRP-JMPS-10004	Area 24 Lower Frame Tag Ref. FRP-JMPS-10003
Area 25 Upper Frame Tag Ref. FEP-JMPS-10003	Area 25 Lower Frame Tag Ref. FEP-JMPS-10001

Inclusions

1. Installation and inspection acceptance of the as-designed upper and lower support frames listed above in their final location including final attachment to the building structure support.
2. Installation of liner plate required to be completed for installation of the frames.

Exclusions

1. Installation of items agreed as unsuitable to be installed in a construction environment and could be subject to potential damage.
2. Equipment located on the support frames and associated jumpers.
3. Removal of any temporary construction aids where it can be demonstrated that these are required for follow-on construction activities and they do not impact the follow-on construction activities.
4. Open punch list items and open nonconformance reports, construction deficiency reports, and field checklists that are not related to the functionality of the frames and will not prevent follow-on construction activities from taking place.
5. Installation of temporary protection for construction.

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP4521005	PT – Hot Cell Area 01 – Set Wall Upper Frames	4PP4521020	PT- Hot Cell Area 01 – Set Lower Frame
4PP4521145	PT – Hot Cell Area 24 – Set Wall Upper Frames	4PP4521720	PT – Hot Cell 24 – Set Lower Frame
4PP4521155	PT – Hot Cell Area 25 – Set Wall Upper Frames	4PP4521770	PT – Hot Cell Area 25 – Set Lower Frame

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Copy of installation inspection report with sign offs that show the frame is set in the final location, inclusive of permanent attachment to the base/wall support.

Contract Fee Milestones
PTF-05

Facility	Activity ID	Description
PTF	1GPZZCFM05	Controls and Instrumentation Design Complete

Milestone Definition

Complete the Controls and Instrumentation (C&I) design. All deliverables mentioned are for the committed stage of design and include the supporting calculations and evaluations:

- System block diagrams (alpha revisions which do not incorporate vendor data or physicalization)
- Safety system requirement specifications to include APC (additional protection class) report and system safety design sketches
- Software functional specifications (to be incorporated into piping & instrumentation diagram schematic diagrams and logic diagrams)
- Material requisitions for quote
- Equipment specifications
- Datasheets
- Installation specifications
- Discipline design criteria documents
- Supporting calculations
- Design proposal drawings
- System descriptions to support committed system design

This scope does not include the layout and routing of C&I instrumentation cable, incorporation of vendor information, programming of software, or physicalization typically associated with confirmation activities.

Inclusions: Included in Definition
Exclusions: N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
3EP10EJCMP	PT - C&I Engineering Complete	3EP17HT003	PT - C&I SFS - C1V System Rev 0 (100%)
3EP17C1FNJ	PT- C&I – SBD FNJ	3EP17SR0FM	PT-C&I SSRS Rev 0 Completion
3EP17C1SUM	PT-C&I-EIT Report SUM		

Ref. original ID# 3EPZZEJGM

Objective Evidence of Milestone Completion

- At the time of completion, BNI will transmit a list of the drawing numbers to the DOE Federal Project Manager for the drawing type codes listed:
  - J1 - system block diagram
  - 3PS - safety system requirements specification
  - M6 - piping and instrument diagrams (control data from software functional specifications will be incorporated into piping and instrumentation diagrams)

Contract Fee Milestones
PTF-06

Facility	Activity ID	Description
PTF	1GP47CFM06	Receipt of all Plant Service Air System Pipe Racks

Milestone Definition

Receive and accept all PSA system pipe racks at the Marshalling Yard, to include the following:

PSA-RK-00018	PSA-RK-00028	PSA-RK-00014	PSA-RK-00003	PSA-RK-00037
PSA-RK-00020	PSA-RK-00033	PSA-RK-00016	PSA-RK-00005	PSA-RK-00039
PSA-RK-00021	PSA-RK-00035	PSA-RK-00023	PSA-RK-00006	PSA-RK-00052
PSA-RK-00022	PSA-RK-00036	PSA-RK-00024	PSA-RK-00008	PSA-RK-00053
PSA-RK-00031	PSA-RK-00047	PSA-RK-00027	PSA-RK-00009	PSA-RK-00054
PSA-RK-00032	PSA-RK-00048	PSA-RK-00038	PSA-RK-00010	PSA-RK-00055
PSA-RK-00025	PSA-RK-00049	PSA-RK-00001	PSA-RK-00011	PSA-RK-00056
PSA-RK-00026	PSA-RK-00050	PSA-RK-00002	PSA-RK-00012	

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
9ZP47257B1	PT QC/MRR – Release 1 – 56+ Racks – Rooms 311/322 Q-MA-PH02-08	9ZP47257E1	PT-MY QC&MRR-Release 4 – 77+ Racks-Rooms 415/423/423A Q-MA-PH02-03
9ZP47257C1	PT-MY QC&MRR-Release 6 – 77+ Rooms 431 A/B 422A/402 Q-MA-PH02-06	9ZP47257G1	PT-MY QC&MRR-Release 3 – 77+ Racks – Rooms 426/410/425 Q-MA-PH02-12
9ZP47257D1	PT-MY QC&MRR-Release 5 – 77+ Racks-Rooms 423A/B Q-MA-PH02-04	9ZP47257H1	PT-MY QC&MRR-Release 2 – 77+ Racks-Room 410 Q-MA-PH02-11

Ref. original ID# 9FP472093X

Objective Evidence of Milestone Completion

- Completion of this milestone will include a screen shot from the Bechtel Procurement System demonstrating that the material receiving report number has been issued for the specific shipment and the material receiving report has been completed and issued by Project Document Control.

Contract Fee Milestones
PTF-07

Facility	Activity ID	Description
PTF	1GPZZCFM07	Electrical Design Complete

Milestone Definition

Complete the Pretreatment electrical design. All deliverables mentioned are for the committed stage of design and include the supporting calculations and evaluations:

- Single line diagrams
- Cable tray and raceway drawings
- Cable and wire routing
- Schematics
- Lighting drawings
- Grounding drawings
- Cathodic protection design
- Lightning protection drawings
- Communications layout drawings
- Material requisitions for quote
- Equipment specifications
- Datasheets
- Installation specifications
- Discipline design criteria documents
- Supporting calculations
- Design proposal drawings
- System descriptions to support committed system design

This scope does not include the layout and routing of C&I instrumentation cable, or incorporation of vendor information, or field requested changes typically associated with confirmation activities.

Inclusions

Included in Definition

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
3EP16SRCKE	PTF-Sum- EE Setroute Cable Routing-Electrical CLOSE	3EP16CMLA	PTF-EE Communication Layouts Annex
3EP16EEDFZ	PT - EE - Single Lines Design Freeze	3EP16112A3	PTF – EE Single Line Diagrams
3EP16CRDSN	PT – Design Substantially Complete	3EP16MVE01	PTF – EE 13.8kV SWGR Relay Set points IFC

Contract Fee Milestones
PTF-07

3EP16LDM01	PT-EE 120V Load List	3EP16PD004	PT-EE Unscheduled Physical Design – FY12
3EP16PD005	PT-EE Cable Tray Layout	3EP16T3501	PT-EE-PT-Electrical Equipment List
3EP16PR500	PT-EE-PR-Electrical Equipment List	3EP16C4STA	PT-EE-Setroute Terms (BNG/DIW/ FEP/HPS/LVE/MVE/PCW/ PSW/SCW)
3EP16C1CBA	PT-EE-CBD (BNG/DIW/FEP/ HPS/LVE/MVE/PCW/PSW/SCW)	3EP16C4STB	PT-EE-Setroute Terms (LPS/ DCE/UPE/BSA/C2V/C3V/C5V/ ISA/SPA)
3EP16C1CBB	PT-EE-CBD (BSA/C2V/C3V/ C5V/DCE/ISA/LPS/PSA/UPE)	3EP16C4STD	PT-EE-Setroute Terms (DOW/ FRP/PFH/PIH/PJV/RWH/TLP/ UFP
3EP16C1CBC	PT-EE-CBD (AFR/ASX/CHW/ FDE/NAR/PVP/PVV/RDP/RLD/ SHR/SPR/TCP)	3EP16C4STE	PT-EE-Setroute Terms (C1V/ CNP/CRP/CXP/DWJ/EMJ/FNJ/ HLP/MHJ/PTJ/PWD/PCJ/PPJ/ RPJ/SDJ)
3EP16C1CBD	PT-EE-CBD (DOW/FRP/PFH/ PIH/PJV/RWH/TLP/UFP)	3EP16C1CBE	PT-EE-CBD (C1V/CNP/CRP/ CXP/DWJ/EMJ/FNJ/HLP/MHJ/ PTJ/PWD/PCJ/PPJ/SDJ/RPJ)

Ref. original ID# 3EPZZEEPGM

Objective Evidence of Milestone Completion

- At the time of completion, BNI will transmit a list of the drawing numbers to the DOE Federal Project Manager for the drawing type codes listed:
  - E0 - Multipurpose - general drawings
  - E1 - One lines / single lines
  - E2 - Underground / embedded conduit plans / plot plans / layouts
  - E2-E53T – Above ground raceway and exposed conduit layout
  - E4 - Electrical layouts / hazard topography
  - E4 - Electrical layouts
  - E5 - Control / logic
  - E6 - Schematics / elem / block diagrams / riser diagrams
  - E7 - Connection / wiring diagrams
  - E8 - Electrical load list / panel schedules
  - E9 - Details / sections
  - EC - 480V motor control center schedules
  - Setroute report identifying released cables and raceway

Contract Fee Milestones
PTF-08

Facility	Activity ID	Description
PTF	1GP30CFM08	Set Remaining Pretreatment Vessels at Elevation 0 Ft

Milestone Definition

Set the remaining in-cell vessels (listed below) in place in their final location.

UFP-VSL-0001A	UFP-VSL-0002A	HLP-VSL-00022	HLP-VSL-0027B	PWD-VSL-00044
UFP-VSL-0001B	UFP-VSL-0002B	HLP-VSL-00028	HLP-VSL-0027A	PVP-SCB-0002
PVP-VSL-00001				

Inclusions

Installation and inspection acceptance of the vessels listed above, verifying the vessels are in the correct final location and orientation; vessels will be in their final operational condition and will not require repair, modification, or upgrades.

Exclusions

1. Pipe work connections to the vessels
2. Final welding into position
3. Installation of the man access cover
4. Removal of any temporary construction aids where it can be demonstrated that these are required for follow-on construction activities
5. Removal of any shipping aids where it can be demonstrated that a logical case exists for removal at a later date and that these do not impede installation or construction activities
6. Open punch list items and nonconformance reports, construction deficiency reports, and field checklists that are not related to the functionality of the vessels, do not impact the follow-on activities, and are documented with justification to be excluded from the milestone
7. Internal cleanliness inspection acceptance
8. Outstanding vendor documentation that does not prevent the vessels from being used for installation or follow-on construction activities
9. Installation of temporary protection for the construction phase
10. Labeling

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP30201A9	PT- PA02E Set Vessel UFP-VSL-00001A	4PP30012AC	PT - PA04W Set Vessel HLP-VSL-22
4PP30031B	PT-PA03 Set Vessel UFP-VSL-1B & Weldout	4PP30012AB	PT - PA04E Set Vessels HLP-VSL-27B
4PP30032A	PT-PA03 Set Vessel UFP-VSL-2A & Weldout	4PP30012AA	PT - PA04E Set Vessels HLP-VSL-27A
4PP30032B	PT-PA03 Set Vessel UFP-VSL-2B & Weldout	4PP3004001	PT-PA04W Set & Weldout Vessel PVP-VSL-00001
4PP300344	PT-PA03 Set Vessel PWD-VSL-44 & Weldout	4PP3004002	PT-PA04W Set Vessel HLP-VSL-28
4PP300302	PT-PA03 Set Vessel PVP-SCB-2 & Weldout		

PTF-08

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Copy of the installation inspection report with sign offs for vessel setting activities that demonstrates the vessel is in its final location.

Contract Fee Milestones
PTF-09

Facility	Activity ID	Description
PTF	1GP31CFM09	Set Pretreatment Vessels FEP-SEP-00001A and -00001B in PA02

Milestone Definition

Set Pretreatment vessels FEP-SEP-00001A and -00001B in place in their final location in PA02.

Inclusions

1. Installation and inspection acceptance that the vessels listed above are located in their correct final location and orientation including final fixing into position. Vessels will be in their final operational condition and will not require repair, modification, or upgrades
2. Installation and inspection acceptance of the support tower structure and square base frame support

Exclusions

1. Pipe work connections to the vessels
2. Installation of the man access cover
3. Removal of any temporary construction aids where it can be demonstrated that these are required for follow-on construction activities
4. Removal of any shipping aids where it can be demonstrated that a logical case exists for removal at a later date and that these do not impede installation or construction activities
5. Open punch list items and nonconformance reports, construction deficiency reports, and field checklists that are not related to the functionality of the vessels, do not impact the follow-on activities, and are documented with justification to be excluded from the milestone
6. Internal cleanliness inspection acceptance
7. Outstanding vendor documentation that does not prevent the vessels from being used for installation or follow-on construction activities
8. Installation of temporary protection for the construction phase
9. Labeling

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP30013A1	PT - PA02 Set FEP-SEP-00001B	4PP30013AC	PT – PA02 Set FEP-SEP-00001A

Ref. original ID# 4PP31013AE

Objective Evidence of Milestone Completion

- Copy of the installation inspection report with sign offs for vessel setting activities that demonstrates the vessel is located and fixed in its final location.

Contract Fee Milestones
PTF-10

Facility	Activity ID	Description
PTF	1GP12CFM10	Complete Pretreatment Concrete Slabs at Elevation 56 Ft

Milestone Definition

Complete the placement of the remaining elevation 56 ft concrete slabs as follows:

FREP EL Slab - 5607	FREP EL Slab.- 5618	FREP EL Slab - 5631	FREP EL Slab - 5641
FREP EL Slab - 5608	FREP EL Slab - 5619	FREP EL Slab - 5632	FREP EL Slab - 5644
FREP EL Slab - 5609	FREP EL Slab - 5620	FREP EL Slab - 5634	FREP EL Slab - 5645
FREP EL Slab - 5610	FREP EL Slab - 5625	FREP EL Slab - 5635	FREP EL Slab - 5646
FREP EL Slab - 5611	FREP EL Slab - 5626	FREP EL Slab - 5636	FREP EL Slab - 5647
FREP EL Slab - 5612	FREP EL Slab - 5627	FREP EL Slab - 5637	FREP EL Slab - 5648
FREP EL Slab - 5614	FREP EL Slab - 5628	FREP EL Slab - 5638	FREP EL Slab - 5649
FREP EL Slab - 5615	FREP EL Slab - 5629	FREP EL Slab - 5639	FREP EL Slab - 5650
FREP EL Slab - 5616	FREP EL Slab - 5630	FREP EL Slab - 5640	

Note - The following slabs have been completed: 5601, 5602, 5603, 5604, 5605, 5606, 5613, 5621, 5622, 5623, 5624, 5633, 5642, and 5643.

Reference field sketches 24590-PTF-FSK-CON-L-04-005 and 24590-PTF-FSK-CON-L-04-006.

Inclusions

Placement and acceptance of concrete and all associated embeds and penetrations

Exclusions

1. Formwork and/or shoring removal
2. Pour backs for construction access
3. Cosmetic surface repairs
4. Open punch list items and nonconformance reports, construction deficiency reports, and field checklists that do not impact the structural integrity of the concrete
5. Coatings

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP125633G	PT - FREP EL Slab - 5648 - South	4PP1256B13	PT - PA13E Cell Top FREP – 5616
4PP125633H	PT - FREP EL Slab - 5649 - South	4PP1256B14	PT - PA13W Cell Top FREP - 5615
4PP125634A	PT - FREP EL Slab - 5630 - MH Area (incl Shoring at +52)	4PP1256C02	PT - PA02E Cell Top FREP PA02 - 5635 East

4PP1256B05	PT - PA04-W Cell Top FREP [EL 56] (WP to Include Decking) WP PCC5637	4PP1256C09	PT - Cell Top FREP PA09 – 5614 (WP to Include Installation of Decking)

Contract Fee Milestones
PTF-10

Ref. original ID# 4PP1200M09

Objective Evidence of Milestone Completion

- Copies of concrete pour cards with sign off for placement acceptance.
- Sketch showing scope of construction access at elevation 56 ft, marked up to indicate areas excluded for construction access.
- Indication to demonstrate the milestone scope depicted on the sketch or drawing is covered by signed pour cards.

Contract Fee Milestones
PTF-12

Facility	Activity ID	Description
PTF	1GP14CFM12	Install Roofing at Elevation 98 Ft

Milestone Definition

Complete the installation of roofing on the PT Facility main building at the elevation 98 ft.

Inclusions

Erection and final fixing into position to the building structure of roof panels and associated supports in their final location and design condition to provide weather protection

Exclusions

1. Roof panels left out to provide construction access where it can be demonstrated that these are necessary for follow-on construction activities to provide access*
2. Open punch list items and open nonconformance reports, construction deficiency reports, and field checklists that do not interfere with immediate weather protection
3. Coatings and coatings touch up
4. Permanent penetration seals
5. Removal of temporary construction aids where it can be demonstrated these are required for follow-on activities
6. Grounding attachments
7. Attachment of lighting fixtures and other equipment items

*Roof panels that are excluded to provide construction access will be identified on drawing or sketch, marked up to indicate exclusions.

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP1450098	PT – S/C Install Roofing at Elev +98		

Ref. original ID# 4PP1452000

Objective Evidence of Milestone Completion

- Approved engineering drawing and specification for roof system and sketch or drawing showing scope of the roof completed marked up to indicate areas excluded for Construction access.
- Indication to demonstrate that the milestone scope completed is covered by the signed subcontractor inspection records.
- Copy of signed subcontractor installation records for roof installation acceptance; these will be endorsed by BNI confirming milestone completion.

Contract Fee Milestones
PTF-13

Facility	Activity ID	Description
PTF	1GP27CFM13	Set Air Handling Units at Elevation 98 Ft 0 In.

Milestone Definition

Set into place in the final location the C2 air handling units located at elevation 98 ft in room P-0520, column lines 25 through 30, and column lines B through H.

Air handling unit (AHU) tag reference numbers:

24590-PTF-MA-C2V-AHU-00001A	24590-PTF-MA-C2V-AHU-00001B
24590-PTF-MA-C2V-AHU-00001C	24590-PTF-MA-C2V-AHU-00001D

Inclusions

Setting the AHUs in their final location and final fixing into position

Exclusions

1. Final alignments, AHU internals for motor/fan couplings, and final adjustments to support startup activities
2. Electrical and grounding connections
3. Piping and instrument connections
4. Duct connections
5. Painting and painting touch up
6. Fireproofing and fireproofing touch up
7. Labeling and tags
8. Outstanding vendor documentation that does not impact the installation activities, such as spare parts list and operations and maintenance manuals
9. Removal of temporary construction aids and shipping where it can be demonstrated that these are required for follow-on activities
10. Installation of temporary protection for construction
11. Open punch list items and nonconformance reports, construction deficiency reports, and field checklists that are not related to the functionality of the AHUs (i.e., will not prevent connection of duct and hook-up of controls and utilities) or do not impact the installation activities
12. Internal cleanliness inspection and acceptance

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP1577820	PT – S/C Fire Protection El 98 Lower Layer		

Ref. original ID# 4PP2756H10

Objective Evidence of Milestone Completion

- Copy of installation inspection report with sign offs that show the AHUs are set in their final location.

Contract Fee Milestones
PTF-14

Facility	Activity ID	Description
PTF	1GP30CFM14	Set Filter Cave High-Efficiency Mist Eliminator, HEPA, and Demister Equipment

Milestone Definition

Initial set into final location the HEPA and high-efficiency mist eliminator filter housings and demister vessels identified below, located at elevation 56 ft, in the filter cave room number P-0335, column lines 17 through 28 and column lines H through L (reference PA31).

C5V-HEPA-00003A	C5V-HEPA-00003F	PJV-HEPA-00001A	PJV-HEPA-00001F	PJV-DMST-00002B
C5V-HEPA-00003B	C5V-HEPA-00003G	PJV-HEPA-00001B	PJV-HEPA-00001G	PJV-DMST-00002C
C5V-HEPA-00003C	C5V-HEPA-00003H	PJV-HEPA-00001C	PVV-HEPA-00001A	PVP-HEME-00001A
C5V-HEPA-00003D	C5V-HEPA-00003I	PJV-HEPA-00001D	PVV-HEPA-00001B	PVP-HEME-00001B
C5V-HEPA-00003E	C5V-HEPA-00003J	PJV-HEPA-00001E	PJV-DMST-00002A	PVP-HEME-00001C

Inclusions

Installation and inspection acceptance of the filter housing, vessels, and associated support structure of the equipment listed above, verifying correct location and orientation

Exclusions

1. Installation of equipment components that are agreed to be unsuitable for installation in a construction environment and would be subject to potential damage (e.g., filters and instruments)
2. Electrical/grounding connections
3. Piping and instrument connections
4. Duct work connections
5. Labeling and tags
6. Removal of temporary construction aids and shipping aids where it can be demonstrated that these are required for follow-on activities or a more appropriate time to remove the item exists
7. Installation of temporary protection for construction
8. Open punch list items and open nonconformance reports, construction deficiency reports, and field checklists that are not related to the functionality of the filter housing structure and will not prevent the follow-on construction activities from taking place
9. Internal cleanliness inspection and acceptance
10. Installation of temporary protection for construction

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP30E18	PT - PA31 OTT Heavy Rigging CL 17-24	9FP362150R	PT - DMY - PJV-DMST-2A/2B/2C PJV Demisters
9FP2700140	PT - DMY- Rem C/O HEPA Filter Hsings (MKH0-02) +56	9FP361850R	PT - DMY - PVP-HEME-1A/1B/1C High Mst Elimntr
4PP3631001	PT – Install PVP/PVV HEME Vessels	4PP361560	PT – Install PJV Demisters – PJV DMST-00002A/2B/2C

Contract Fee Milestones
PTF-14

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Copy of installation inspection report with sign offs that show the HEPA and high-efficiency mist eliminator filter housing/demister vessels are set in their final locations, inclusive of permanent attachment to the base support.

Contract Fee Milestones
PTF-15

Facility	Activity ID	Description
PTF	1GP28CFM15	Receipt of Electrical Equipment for the Control Building Electrical Rooms

Milestone Definition

Receive and accept the electrical equipment for the control building electrical rooms at the Marshalling Yard, which includes the following:

LVE-MCC-10033A	Motor Control Center	UPE-BATT-10003	UPS Battery
LVE-MCC-10033B	Motor Control Center	UPE-BATT-10007	UPS Battery
LVE-MCC-10201A	Motor Control Center	UPE-BATT-10018	UPS Battery
LVE-MCC-10201B	Motor Control Center	UPE-UPS-10002A	Uninterruptible Power Supply
UPE-BATT-10001A	UPS Battery	UPE-UPS-10002B	Uninterruptible Power Supply
UPE-BATT-10001B	UPS Battery	UPE-UPS-10003	Uninterruptible Power Supply
UPE-BATT-10002A	UPS Battery	UPE-UPS-10007	Uninterruptible Power Supply
UPE-BATT-10002B	UPS Battery	UPE-UPS-10018	Uninterruptible Power Supply

Reference rooms PA140, PA146, and PA147 on general arrangement drawing 24590-PTF-P1-P01T-00020.

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
9ZP28EU11M	PT-MY QC & MRR Release 6 – UPS Non-ITS	9ZP28EU13M	PT-MY QC & MRR Release 2 – UPS ITS
9ZP28EC4M	PT-MY QC & MRR Rel 6-480V MCC Non-ITS +0	9ZP28EU14M	PT-MY QC & MRR Release 3 (Batteries) – UPS ITS
9ZP28EC11M	PT-MY QC & MRR Release 3 – 480V MCC Non-ITS	9ZP2835401	PT-QC/MRR OPT5 BATT MR

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Completion of this milestone will include a screen shot from the Bechtel Procurement System demonstrating that the material receiving report number has been issued for the specific shipment and the material receiving report has been completed and issued by Project Document Control.

Contract Fee Milestones
PTF-16

Facility	Activity ID	Description
PTF	1GP15CFM16	Complete Bulk In-cell Pipe Installation

Milestone Definition

Complete bulk pipe work installation in PA01, PA02, PA03, PA04, PA07, PA08, PA09, PA10, PA11, and PA13.

Inclusions

Erection and inspection acceptance of pipe work and stock coded pipe hangers. Pipe installation includes stick build installation and pipe work installed as part of a module installation concept as appropriate

Exclusions

1. Pipe and hangers left out to provide construction access for follow-on construction activities
2. Pressure testing, leak testing, flushing, blowing, drying, layup preservation of piping
3. In-line components left out for startup activities
4. Closure spools/welds to nozzles/equipment
5. Open punch list items and open nonconformance reports, construction deficiency reports, and field checklists that do not prevent the piping from being tested
6. Coatings and coatings touch up
7. Removal of temporary construction aids and/or temporary hangers where it can be demonstrated that this needed for follow-on activities
8. Labeling and tags
9. Insulation
10. Final adjustment of pipe hanger components (spring can adjustments, for example, subsequent to pressure testing)
11. Completion of multi-commodity hangers insofar as the uncompleted items are not for pipe if applicable
12. Instrument connections, instrument tubing

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP155S01C	PT - PA01[A] Stick-Build Pipe (Post Mod)	4PP155S07C	PT - PA07 Stick-Build Pipe (Post Mods)
4PP155S02B	PT-PA02 Upper Piping UFP-VSL-00062A/B	4PP155S08C	PT - PA08 Stick-Build Pipe (Post Mods)
4PP155S03B	PT - PA03 Stick-Build Pipe (After CT)	4PP155S09B	PT - PA09 Install Stick-Build Pipe (Post Mod)
4PP155S04C	PT - PA04E Stick-Build Pipe (Post Mod)	4PP155S10A	PT - PA10 Install Stick-Build Pipe
4PP155S04D	PT - PA04W Stick-Build Pipe (Post Mod)	4PP155S11C	PT - PA11 Install Stick-Build Pipe (Post Mod)
4PP155S13A	PT – PA13E Install Stick-Build Pipe – Early	4PP155S13B	PT – PA13W Install Stick-Build Pipe - Early

Contract Fee Milestones
PTF-16

Ref. original ID# 4PP1500M06

Objective Evidence of Milestone Completion

- Sketch or drawing showing scope of piping and hangers in planning area, marked up to indicate piping and/or hangers excluded for follow-on construction activities.
- Indication to demonstrate the milestone scope is covered by signed inspection records.
- Document numbers for signed off installation records for piping and hanger installation corresponding to the milestone scope. These consist of the following types of records (or the equivalent in use at time of milestone completion): above ground piping inspection record, pipe support installation record.
- Welding, nondestructive examination, and bolt torquing records are not included in the objective evidence because completion and acceptance of these is required prior to signing the piping and hanger installation records.

Contract Fee Milestones
PTF-17

Facility	Activity ID	Description
PTF	1GP11CFM17	Complete Pretreatment Design

Milestone Definition

Complete the definitive stage of project design for all engineering disciplines. The conceptual design will have been completed and the detail design activities have been completed, which are necessary to support a bid for construction and procurement activities, and issued for construction or issued for quote drawings, specifications, and datasheets, suitable for soliciting bids from contractors and suppliers.

The following is a list of the deliverables that are included:

Design deliverables in the PT Facility engineering design complete include those that are specific to initiating the Pretreatment procurement and construction activities:

- All disciplines:
  - Material requisitions for quote for PT Facility related equipment specifications
  - Datasheets
  - Discipline design criteria documents
  - Supporting calculations
  - Design proposal drawings
  - System descriptions to support committed system design

- Mechanical and Process:
  - Piping and instrumentation diagrams and associated lists
  - Process flow diagrams
  - Ventilation and instrumentation diagrams and associated lists
  - Sampling and analysis requirement documents

- Plant Design:
  - 3D model
  - General arrangement drawings
  - Isometrics
  - Pipe stress and support interim calculations
  - Equipment location diagrams

- Civil/Structural/Architectural:
  - Architectural plans, elevations, and sections
  - Concrete drawings
  - Structural steel drawings
  - Rebar drawings

- Electrical:
  - Single line diagrams
  - Cable tray and raceway drawings
  - Schematics
  - Lighting drawings

- Grounding drawings
- Lightning protection drawings
- Communications layout drawings
- Cable and wire routing

- Controls and Instrumentation:
  - Instrument location drawings
  - System block diagrams
  - Physical controls and instrumentation design documents

- Mechanical Handling:
  - Mechanical handling diagrams
  - Mechanical sequence diagrams

Design deliverables are for the committed stage of design and include the work for the supporting calculations and evaluations. The confirmed stage of design that incorporates vendor information/changes/impacts is not included in this milestone; they are part of the engineering support activities, which will continue through start-up.

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
		3EP10ENDSN	PT - MS Design Complete
3EP10EJCMP	PT - C&I Engineering Complete	3EP10EPDCN	PT - PD Design Complete Milestone
3EP10ECDSN	PT – CSA - Civil/Structural Design Complete	3EP10EPCMP	PT - PD Plant Design Engineering Complete Milestone
		3EP10EECMP	PT – Electrical Engineering Complete Milestone

Ref. original ID# 3EPZZ0099F

Objective Evidence of Milestone Completion

At the time of completion, BNI will transmit a list of the document numbers to the DOE Federal Project Manager for the listed document types. Completion will be indicated by the completion of the work packages in engineering progress and performance reports that support the physical design complete, and will be verified by the documents being available in Project Document Control. BNI will provide Control Account Manager's email notification of milestone completion to the Area Project Manager, Functional Manager, and DOE Federal Project Manager; documents are available for review in Project Document Control. Document type codes for the documents below are described in 24590-WTP-DNT-PADC-02-001, Rev 10, Table 6-5.

Contract Fee Milestones
PTF-17

- All disciplines:
  - Material requisitions for quote for PT Facility related equipment specifications
  - Datasheets
  - Discipline design criteria documents
  - Supporting calculations
  - Design proposal drawings
  - System descriptions to support committed system design

- Mechanical and Process:
  - M6 - Piping and instrumentation diagrams and associated lists
  - M5 - Process flow diagrams
  - M8 - Ventilation and instrumentation diagrams and associated lists
  - Sampling and analysis requirement documents

- Plant Design:
  - P1 - General arrangement drawings
  - P3 - Isometrics
  - P6C - Pipe stress and support interim calculations
  - P1 - Equipment location diagrams

- Civil/Structural/Architectural:
  - A1, A2, and A3 - Architectural plans, elevations, and sections
  - DB - Concrete drawings
  - SS - Structural steel drawings
  - DG - Rebar drawings

- Electrical:
  - E0 - Multipurpose - general drawings
  - E1 - One lines / single lines
  - E2 - Underground / embedded conduit plans / plot plans / layouts
  - E2-E53T - Aboveground raceway and exposed conduit layout
  - E4 - Electrical layouts / hazard topography
  - E4 - Electrical layouts
  - E5 - Control / logic
  - E6 - Schematics / elem / block diagrams / riser diagrams
  - E7 - Connection / wiring diagrams
  - E8 - Electrical load list / panel schedules
  - E9 - Details / sections
  - EC - 480V motor control center schedules
  - Set route report identifying released cables and raceway

- Controls and Instrumentation:
  - J2 - Instrument location drawings
  - J1 - System block diagrams
  - J9D - Physical controls and instrumentation design documents (cabinet/rack general arrangement data sheets)

- Mechanical Handling:
  - M7 - Mechanical handling diagrams
  - M1 - Mechanical sequence diagrams

Exceptions

- Plant Design:
  - 3D model will not be available as a document in Project Document Control; it exists as electronic media

Contract Fee Milestones
PTF-18

Facility	Activity ID	Description
PTF	1GP30CFM18	Set Hot Cell Major Equipment

Milestone Definition

Set into final location the hot cell major equipment items identified below on their permanent support structure located at elevation 0 ft, in room P-0123 column lines 4 through 24 and column lines E through H (reference PA21).

CNP-HX-00001	FEP-PMP-00007B	HLP-PMP-00017B	UFP-FILT-00002A	UFP-PMP-00042A
CXP-HX-00001A	FEP-PMP-00008A	HLP-PMP-00019B	UFP-FILT-00002B	UFP-PMP-00042B
CXP-HX-00001B	FEP-PMP-00008B	HLP-PMP-00021	UFP-FILT-00003A	UFP-PP-00001A
CXP-IXC-00001	FEP-PMP-00009A	HLP-PMP-00019A	UFP-FILT-00003B	UFP-PP-00001B
CXP-IXC-00002	FEP-PMP-00009B	RDP-PMP-00008A	UFP-FILT-00004A	UFP-PP-00002A
CXP-IXC-00003	FRP-PMP-00001	RDP-PMP-00008B	UFP-FILT-00004B	UFP-PP-00002B
CXP-IXC-00004	FRP-PMP-00002A	TLP-PMP-00001	UFP-FILT-00005A	UFP-PP-00003A
CXP-PMP-00001A	FRP-RBLR-00001A	TLP-RBLR-00001	UFP-FILT-00005B	UFP-PP-00003B
CXP-PMP-00001B	FRP-RBLR-00001B	UFP-FILT-00001A	UFP-PMP-00041A	
FEP-PMP-00007A	HLP-PMP-00017A	UFP-FILT-00001B	UFP-PMP-00041B	

Inclusions

Installation and inspection acceptance of the as designed hot cell equipment listed above and associated support structure verifying correct location and orientation

Exclusions

1. Installation of items agreed as unsuitable to be installed in a construction environment and which would be subject to potential damage
2. Jumper/pipe work connections to the vessels
3. Installation of the man access cover to vessels
4. Removal of any temporary construction aids where it can be demonstrated that this is needed for follow-on activities
5. Open punch list items and open nonconformance reports, construction deficiency reports, and field checklists that do not relate to the functionality of the equipment/vessels and will not prevent follow-on construction activities from taking place
6. Internal cleanliness inspection and acceptance
7. Installation of temporary protection for construction

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP2021020	PT – Hot Cell Area 02 – Set Equipment	4PP2021190	PT – Hot Cell Area 28 – Set Equipment
4PP2021030	PT – Hot Cell Area 03 – Set Equipment	4PP2021220	PT – Hot Cell Area 31 – Set Equipment
4PP2021050	PT – Hot Cell Area 05 – Set Equipment	4PP2021230	PT – Hot Cell Area 32 – Set Equipment
4PP2021060	PT – Hot Cell Area 06 – Set	4PP2021120	PT – Hot Cell Area 17 – Set

	Equipment		Equipment

Contract Fee Milestones
PTF-18

4PP2021070	PT – Hot Cell Area 07 – Set Equipment	4PP2021270	PT – Hot Cell Area 36 – Set Equipment
4PP2021080	PT – Hot Cell Area 08 – Set Equipment	4PP2021280	PT – Hot Cell Area 37 – Set Equipment
4PP2021150	PT – Hot Cell Area 24 – Set Equipment	4PP2021290	PT – Hot Cell Area 38 – Set Equipment
4PP2021160	PT – Hot Cell Area 25 – Set Equipment	4PP2021300	PT – Hot Cell Area 39 – Set Equipment
4PP2021170	PT – Hot Cell Area 26 – Set Equipment	4PP2021250	PT – Hot Cell Area 34 – Set Equipment
4PP2021180	PT – Hot Cell Area 27 – Set Equipment	4PP2021260	PT – Hot Cell Area 35 – Set Equipment
4PP2021090	PT – Hot Cell Area 09 – Set Equipment		
4PP2021110	PT – Hot Cell Area 11 – Set Equipment		

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Copy of installation inspection report with sign offs that show the major equipment is set in the final location inclusive of permanent attachment to the base support.

Contract Fee Milestones
PTF-19

Facility	Activity ID	Description
PTF	1GP14CFM19	Complete Main Building Weathering

Milestone Definition

Complete the installation of siding and roofing for the PT Facility main building.

Inclusions

Erection and final fixing into position to the building structure of the siding and roof panels and associated supports in their final location and design condition

Exclusions

1. Siding and roof panels left out to provide construction access where it can be demonstrated that these are necessary for follow-on construction activities to provide access*
2. Open punch list items and nonconformance reports, construction deficiency reports, and field checklists that do not interfere with immediate weather protection
3. Coatings and coatings touch up
4. Permanent penetration seals
5. Removal of temporary construction aids where it can be demonstrated these are required for follow-on activities
6. Grounding attachments
7. Labeling and signs
8. Attachment of lighting fixtures and other equipment items
9. Permanent doors and windows where it can be demonstrated these have been excluded for construction impacts

*Panels that are excluded to provide construction access will be identified on drawing or sketch marked up to indicate exclusions

Key Predecessors

Activity ID	Description	Activity ID	Description
4PP1441000	PT - S/C Install Elevation Siding EL 98 to 119	4PP1451000	PT - S/C Install Roofing at EL +119 North

Ref. original ID# 4PP1400M07

Objective Evidence of Milestone Completion

- Approved engineering drawing and specification for roof system and sketch or drawing showing scope of main building siding and roof completed, marked up to indicate areas excluded for construction access.
- Indication to demonstrate that the milestone scope completed is covered by the signed subcontractor inspection records.
- Copies of signed subcontractor installation records for siding and roof installation acceptance; these will be endorsed by BNI confirming milestone completion.

Contract Fee Milestones
PTF-20

Facility	Activity ID	Description
PTF	1GPCOCFM20	Final System Turnover Complete

Milestone Definition

Complete the construction of the PT Facility as represented by turnover of the final system to Startup.

Inclusions

N/A

Exclusions

1. TCP system category B and E punch list items as defined by 24590-WTP-GPG-CON-1601, *Control of Punch List Items*
2. Testing activities that are Startup scope per CCN 065971, *Division of Responsibility - Construction Department and Commissioning & Training*
3. Removal of temporary construction aids (temporary power, etc.)
4. Turnover of all documentation
5. Startup final acceptance signatures of TCP system turnover
6. Systems not scheduled to complete prior to target construction completion date

Key Predecessor Listing

Activity ID	Description	Activity ID	Description
5HPC2DCEIA	PT SU Accept From Construction DCE	5HPC2STRIA	PT SU Accept From Construction STR
5HPC2MVEIA	PT SU Accept From Construction MVE	5HPC2DOWIA	PT SU Accept From Construction DOW
5HPC2LVEIA	PT SU Accept From Construction LVE	5HPC2HTEIA	PT SU Accept From Construction HTE
5HPC2C1VIA	PT SU Accept From Construction C1V	5HPC2HPSIA	PT SU Accept From Construction HPS
5HPC2ISAIA	PT SU Accept From Construction ISA	5HPC2CPEIA	PT SU Accept From Construction CPE
5HPC2NLDIA	PT SU Accept From Construction NLD	5HPC2GREIA	PT SU Accept From Construction GRE
5HPC2PCJIA	PT SU Accept From Construction PCJ	5HPC2FPWIA	PT SU Accept From Construction FPW
5HPC2PSWIA	PT SU Accept From Construction PSW	5HPC2LPSIA	PT SU Accept From Construction LPS
5HPC2UPEIA	PT SU Accept From Construction UPE	5HPC2C3VIA	PT SU Accept From Construction C3V
5HPC2CHWIA	PT SU Accept From Construction CHW	5HPC2CMEIA	PT SU Accept From Construction CME
5HPC2LTEIA	PT SU Accept From Construction LTE	5HPC2DWJIA	PT SU Accept From Construction DWJ
5HPC2PCWIA	PT SU Accept From Construction PCW	5HPC2FEPIA	PT SU Accept From Construction FEP
5HPC2PSAIA	PT SU Accept From Construction PSA	5HPC2PTJIA	PT SU Accept From Construction PTJ

Contract Fee Milestones
PTF-20

5HPC2RLDIA	PT SU Accept From Construction RLD	5HPC2PVVIA	PT SU Accept From Construction PVV
5HPC2SCWIA	PT SU Accept From Construction SCW	5HPC2UFPIA	PT SU Accept From Construction UFP
5HPC2SNDIA	PT SU Accept From Construction SND	5HPC2SCEIA	PT SU Accept From Construction SCE
5HPC2AFRIA	PT SU Accept From Construction AFR	5HPC2PFHIA	PT SU Accept From Construction PFH
5HPC2C5VIA	PT SU Accept From Construction C5V	5HPC2C2VIA	PT SU Accept From Construction C2V
5HPC2DIWIA	PT SU Accept From Construction DIW	5HPC2MHJIA	PT SU Accept From Construction MHJ
5HPC2FDEIA	PT SU Accept From Construction FDE	5HPC2TLPIA	PT SU Accept From Construction TLP
5HPC2FRPIA	PT SU Accept From Construction FRP	5HPC2NARIA	PT SU Accept From Construction NAR
5HPC2HLPIA	PT SU Accept From Construction HLP	5HPC2BSAIA	PT SU Accept From Construction BSA
5HPC2PJVIA	PT SU Accept From Construction PJV	5HPC2ASJIA	PT SU Accept From Construction ASJ
5HPC2PVPIA	PT SU Accept From Construction PVP	5HPC2CRPIA	PT SU Accept From Construction CRP
5HPC2PWDIA	PT SU Accept From Construction PWD	5HPC2SDJIA	PT SU Accept From Construction SDJ
5HPC2SHRIA	PT SU Accept From Construction SHR	5HPC2TCPIA	PT SU Accept From Construction TCP
5HPC2SNRIA	PT SU Accept From Construction SNR	5HPC2SPRIA	PT SU Accept From Construction SPR

Exception Systems

Activity ID	Description	Activity ID	Description
5HPC2EMJIA	PT SU Accept From Construction EMJ	5HPC2PPJIA	PT SU Accept From Construction PPJ
5HPC2ASXIA	PT SU Accept From Construction ASX	5HPC2CNPIA	PT SU Accept From Construction CNP
5HPC2RPJIA	PT SU Accept From Construction RPJ	5HPC2RDPIA	PT SU Accept From Construction RDP
5HPC2CXPIA	PT SU Accept From Construction CXP	5HPC2RWHIA	PT SU Accept From Construction RWH
5HPC2PIHIA	PT SU Accept From Construction PIH		

Ref. original ID# 4PPCONPGM

Objective Evidence of Milestone Completion

- Copy of Construction Management signed turnover package for the final system.
- Copies of open B and E punch list items for the final system.

Contract Fee Milestones
PTF-21

Facility	Activity ID	Description
PTF	1GPC2CFM21	Construction Turnover of PIH System Crane to Startup

Milestone Definition

Complete the turnover of the PIH system to Startup.

Inclusions

1. System turnover will include all system components required for completing the startup activities including all documentation required by startup to support startup activities.
2. The crane system includes such features as the crane bridge, trolley with power manipulator , control system, and cable reel system.

Exclusions

1. PIH system category open punch list items that do not prevent the PIH system from being turned over to start up and do not prevent completion of startup activities
2. Testing activities that are Startup scope per CCN 065971, *Division of Responsibility - Construction Department and Commissioning & Training*
3. Removal of temporary construction aids (temporary power, etc.)
4. Startup final acceptance signatures of TCP System turnover

Key Predecessor Listing

This milestone will be FF to S/U activity 5HPC2PIHIA - PT SU Accept From Construction PIH.

Activity ID	Description	Activity ID	Description
5HPC2PIHBA	PT SU Construction T/O to Startup PIH (includes Walkdowns & Punchlist Review)		

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Copies of turnover certificates signed by construction indicating system is complete and ready to hand over to the receiving organization.

Contract Fee Milestones
PTF-22

Facility	Activity ID	Description
PTF	1GPC2CFM22	Demonstration of Resin Addition to Ion Exchange Columns

Milestone Definition

Demonstrate filling an ion exchange (IX) column in the PT Facility hot cell, using the IX Fresh Resin Addition system.

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
5HPC2CRPIA	PT SU Accept from Construction CRP	5HPC2CXPIA	PT SU Accept from Construction CXP
5HPC2CRPAA	PT SU Perform Component Testing CRP	5HPC2CXPAA	PT SU Perform Component Testing CXP
5HPC2CRPEA	PT SU Perform System Testing CRP		

Ref. original ID# 5HPC2CXPAA

Objective Evidence of Milestone Completion

- Completed copy of the test section(s) related to resin addition to an IX column. Resin transfer will be from CRP Fresh Resin Addition tank to hot cell IX column and meet design transfer rates.

Contract Fee Milestones
PTF-23

Facility	Activity ID	Description
PTF	1GPE2CFM23	Submit Final Safety Analysis Report

Milestone Definition

Submit Final Safety Analysis Report. This gatepost is the revision and submission of the 10CFR830 compliant 2016 Update of the PT Documented Safety Analysis for DOE-WTP review and approval.

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
7KPE21M444	PT - Prepare DSA Update 1		

Ref. original ID# N/A

Objective Evidence of Milestone Completion

- Transmittal of the 2016 Pretreatment Documented Safety Analysis Update for DOE approval via letter.
- DOE-WTP to determine acceptability for review of the document within two weeks of receipt.

Contract Fee Milestones
HLW-04

Facility	Activity ID	Description
HLW	1GH36P1044	Receive and Accept Plant Wash Vessel RLD-VSL-8

Milestone Definition

Receive and accept plant wash vessel RLD-VSL-8 at the Material Handling Facility.

Inclusions

Included in Definition

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
9ZH361244M	MRR Plant Wash Vessel RLD-VSL-08		

Objective Evidence of Milestone Completion

- Documented evidence to DOE of the receipt of equipment.
- Completion of this milestone will include a screen shot from the Bechtel Procurement System demonstrating that the material receiving report number has been issued for the specific shipment and the material receiving report has been completed and issued by Project Document Control.

Contract Fee Milestones
HLW-06

Facility	Activity ID	Description
HLW	1GH47C1146	Set Offgas Carbon Adsorber

Milestone Definition

Initial set in place in final location of adsorbers HOP-ADBR-00001A, -00001B, -00002A, and -00002B, excluding permanent installation

Inclusions

1. Installation and inspection acceptance that the adsorbers are located in their correct location and orientation
2. Adsorbers will be in a condition that will not require repair, modification, or upgrades

Exclusions

1. Installation of platforms, ladders, handrails, and stairs associated with the adsorbers
2. Electrical and grounding connections
3. Piping and instrument connections to the skid
4. Installation of loose items and internals
5. Painting and painting touch up
6. Fireproofing and fireproofing touch up
7. Labeling
8. Removal of temporary construction aids and shipping aids
9. Installation of temporary protection for construction
10. Internal cleanliness inspection and acceptance

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH47208S1	Set Offgas Carbon Adsorber HOP-ADBR-1A&B 2A&B	4HH121005	FREP Slab on grade 1005

Objective Evidence of Milestone Completion

- Interim copy of special instruction for setting of adsorbers with sign offs for setting activities; alternatively, if the same scope is documented on a tank/vessel inspection record then this may also be used as objective evidence.

Contract Fee Milestones
HLW-08

Facility	Activity ID	Description
HLW	1GH15C1248	Install Pipe and Hangers in PA02B

Milestone Definition

Complete pipe and pipe hanger installation in planning area PA02B.

Inclusions

1. Erection and inspection acceptance of pipe, valves, fittings, and in-line components
2. Erection and inspection acceptance of engineered and stock code pipe hangers

Exclusions

1. Pipe and hangers left out to provide construction access for follow-on construction activities
2. Pressure testing, leak testing, flushing, blowing, drying, layup preservation of piping
3. In-line components left out per Startup request
4. Closure spools/welds to nozzles/equipment
5. Coatings and coatings touch up
6. Removal of temporary construction aids and/or temporary hangers
7. Grounding attachments
8. Labeling and tags
9. Insulation
10. Items and activities that do not prevent the piping from being tested
11. Final adjustment of pipe hanger components (spring can adjustments for example subsequent to pressure testing)
12. Completion of multi-commodity hangers insofar as the uncompleted items are not for pipe
13. Instrument connections, instrument tubing, and instruments
14. Hook up of electrically or pneumatically operated valves
15. Installation of access items (platforms, ladders, etc.) for piping access
16. Installation of valve handles
17. Subcontractor fire protection piping
18. Vendor piping on equipment skids

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH15PA2B1	HLW - Install Pipe & Hangers PA02B	4HH122130	FREP Conc Wall 2130 (EL14)
4HH122170	FREP Conc Wall 2129B (EL 27.5 to 37)	4HH122132	FREP Conc Wall 2132 (EL 14 To 26.5)

Objective Evidence of Milestone Completion

- Sketch or drawing showing scope of piping and hangers in PA2B, marked up to indicate piping and/or hangers excluded for follow-on construction activities.

- Indication to demonstrate the milestone scope depicted on the sketch or drawing is covered by signed inspection records.
- Document numbers for signed off installation records for piping and hanger installation corresponding to the milestone scope. These consist of the following types of records (or the equivalent in use at time of milestone completion): aboveground piping inspection records and pipe support installation records.
- Welding, nondestructive examination, and bolt torquing records are not included in the objective evidence because completion and acceptance of these is required prior to signing the piping and hanger installation records.

Contract Fee Milestones
HLW-09

Facility	Activity ID	Description
HLW	1GH27C1249	Set HEPA Filter Housings at Elevation 14 Ft

Milestone Definition

Initial set in place in final location of the HEPA filter housing for C5V, HOP, and PJV system HEPA filters, excluding permanent installation.

Inclusions

Installation and inspection acceptance of the filter housing and support structure verifying correct location and orientation

Exclusions

1. Installation of platforms, ladders, handrails, and stairs associated with the filter housing
2. Electrical and grounding connections
3. Piping and instrument connections
4. Duct connections
5. Installation of loose items and internals
6. Painting and painting touch up
7. Fireproofing and fireproofing touch up
8. Labeling and tags
9. Removal of temporary construction aids and shipping aids
10. Installation of temporary protection for construction
11. Items and activities that will not prevent installation of HEPA filters
12. Internal cleanliness inspection and acceptance

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH2720595	HLW-Set PJV Filter Housings	4HH2720605	HLW-Set C5V Filter Housings
4HH2720525	HLW-Set HOP Filter Housings		

Objective Evidence of Milestone Completion

- Copy of material receiving report for HEPA filter housings.
- Interim copy of special instruction (or alternative record in use at time of installation) for installation of HEPA filter housing with sign offs for installation activities inclusive of permanent attached to base support.

Contract Fee Milestones
HLW-10

Facility	Activity ID	Description
HLW	1GH36C1250	Set Offgas Catalytic Oxidizers HOP-SCO-00001 and 00004

Milestone Definition

Initial set in place in final location of the catalytic oxidizers HOP-SCO-00001 and HOP-SCO-00004, excluding permanent installation.

Inclusions

1. Installation and inspection acceptance that the oxidizers listed above are located in their correct location and orientation
2. Oxidizers will be in a condition that will not require repair, modification, or upgrades

Exclusions

1. Installation of platforms, ladders, handrails, and stairs associated with the catalytic oxidizers
2. Electrical and grounding connections
3. Piping and instrument connections
4. Installation of loose items and internals
5. Painting and painting touch up
6. Fireproofing and fireproofing touch up
7. Labeling
8. Removal of temporary construction aids and shipping aids
9. Installation of temporary protection for construction phase
10. Internal cleanliness inspection and acceptance

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH123004	FREP Slab 3004	4HH123005	FREP Slab 3005
4HH36208AA	Set – HOP-SKID-5 & 7 with HOP-SCO-1 & 4		

Objective Evidence of Milestone Completion

- Interim copy of special instruction for setting of catalytic oxidizers with sign offs for setting activities; alternatively, if the same scope is documented on a tank/vessel inspection record then this may also be used as objective evidence.

Contract Fee Milestones
HLW-11

Facility	Activity ID	Description
HLW	1GH27C1351	Installation of HLW HVAC Duct at Elevation 0 Ft Corridors

Milestone Definition

Complete the installation of HVAC duct at elevation 0 ft corridors.

Inclusions

1. Erection and inspection acceptance of HVAC duct and associated hangers
2. Dampers and in-line components

Exclusions

1. Duct left out to provide construction access for follow-on construction activities
2. Leak testing
3. In-line components left out per Startup request
4. Coatings touch up
5. Fireproofing and fireproofing touch up
6. Penetration seals
7. Removal of temporary construction aids and/or temporary hangers
8. Grounding attachments
9. Labeling and tags
10. Insulation
11. Installation of smoke detectors
12. Items and activities that will not prevent duct from being leak tested
13. Completion of multi-commodity hangers insofar as the uncompleted items are not for duct
14. Instrument connections, instrument tubing, and instruments
15. Electrical and instrumentation cabling
16. Installation of access items (platforms, ladders, etc.) for duct and duct equipment access
17. Final connections to equipment

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH2710810	S/C Install HVAC Duct (EL 0) PA #08	4HH27211D0	S/C Install HVAC Duct (EL +0) PA #11D
4HH27211C1	HLW – S/C Install HVAC Duct (EL+0) PA#11C	4HH27211A1	HLW- S/C Install HVAC Duct PA #11A
4HH27211E1	S/C Install HVAC Duct (EL 0) Planning Area 11E	4HH27211F1	S/C Install HVAC Duct (EL 0) Planning Area 11F
4HH27211B1	S/C Install HVAC Duct & C5V-CCL-6 H-B044	4HH27211G1	S/C Install HVAC Duct (EL 0) Planning Area 11G
4HH27110B2	S/C Install HVAC Duct HMB048 PA#10B		

Contract Fee Milestones
HLW-11

Objective Evidence of Milestone Completion

- Sketch or drawing showing scope of HVAC duct at elevation 0 ft, marked up to indicate duct excluded for access for follow-on construction activities.
- Indication to demonstrate the milestone scope depicted on the sketch or drawing is covered by signed subcontractor inspection records
- Copies of signed subcontractor inspection records for duct installation acceptance.

Contract Fee Milestones
HLW-13

Facility	Activity ID	Description
HLW	1GH46C1453	Set HLW HEME Vessels 2A and 2B at Elevation 0 Ft

Milestone Definition

Initial set in place in final location of high-efficiency mist eliminator vessels HOP-HEME-0002A and -0002B, excluding permanent installation.

Inclusions

1. Installation and inspection acceptance that the vessels listed above are located in their correct location and orientation including final fixing into position
2. Vessels will be in a condition that will not require repair, modification, or upgrades

Exclusions

1. Installation of platforms, ladders, handrails, and stairs associated with the vessels
2. Electrical and grounding connections
3. Piping and instrument connections
4. Installation of loose items and internals
5. Painting and painting touch up
6. Fireproofing and fireproofing touch up
7. Labeling and tags
8. Removal of temporary construction aids and shipping aids
9. Installation of temporary protection for construction phase
10. Internal cleanliness inspection and acceptance

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH123158	FREP Concrete Wall 3109B	4HH123148	FREP Concrete Wall 3107A
4HH13202B6	S/C Install SS Liner (El+0) PA2B H-0106	4HH123156	FREP Concrete Wall 3108A
4HH46102BB	Set Melter HEME Vessels – 2A/2B		

Objective Evidence of Milestone Completion

- Copy of material receiving report for high-efficiency mist eliminator vessels.
- Copy of special instruction for installation of vessels with sign offs for setting activities, alternatively, if the same scope is documented on tank/vessel inspection records then these may also be used as objective evidence.

Contract Fee Milestones
HLW-14

Facility	Activity ID	Description
HLW	1GH12C1454	Placement of HLW Concrete Slabs at Elevation 58 Ft

Milestone Definition

Complete the placement of elevation 58 ft concrete slabs.

Inclusions

Placement and inspection acceptance of concrete and all associated embeds and penetrations

Exclusions

1. Formwork and/or shoring removal
2. Pour backs for construction access
3. Cosmetic surface repairs
4. Coatings
5. Items and activates that do not affect the structural integrity of the concrete slabs

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH124001	FREP Slab 4001	4HH124017	FREP Slab 4017
4HH124002	FREP Slab 4002	4HH124018	FREP Slab 4018
4HH124003	FREP Slab 4003	4HH124020	FREP Slab 4020
4HH124004	FREP Slab 4004	4HH124021	FREP Slab 4021
4HH124005	FREP Slab 4005	4HH124022	FREP Slab 4022
4HH124006	FREP Slab 4006	4HH124023	FREP Slab 4023
4HH124007	FREP Slab 4007	4HH124024	FREP Slab 4024
4HH124008	FREP Slab 4008	4HH124025	FREP Slab 4025
4HH124009	FREP Slab 4009	4HH124026	FREP Slab 4026
4HH124010	FREP Slab 4010	4HH124027	FREP Slab 4027
4HH124011	FREP Slab 4011	4HH124028	FREP Slab 4028
4HH124012	FREP Slab 4012	4HH124029	FREP Slab 4029
4HH124013	FREP Slab 4013	4HH124030	FREP Slab 4030
4HH124014	FREP Slab 4014	4HH124031	FREP Slab 4031
4HH124015	FREP Slab 4015	4HH124032	FREP Slab 4032
4HH124016	FREP Slab 4016	4HH124033	FREP Slab 4033
4HH124019	FREP Slab 4019	4HH124034	FREP Slab 4034
4HH124036	FREP Slab 4036	4HH124035	FREP Slab 4035

Objective Evidence of Milestone Completion

- Sketch or drawing showing scope of slabs at elevation 58 ft, marked up to indicate slabs excluded for construction access.
- Indication to demonstrate the milestone scope depicted on sketch or drawing is covered by signed pour cards.

- Copies of concrete pour cards with sign offs for placement acceptance checklist.

Contract Fee Milestones
HLW-15

Facility	Activity ID	Description
HLW	1GH46C1555	Move HLW Melter 1 into Building

Milestone Definition

Move melter 1 to design location to allow melter jumper installation to proceed.

Inclusions

Moving the melter into design location

Exclusions

1. Installation of melter jumpers
2. Final alignments
3. Coatings and coatings touch up
4. Removal of temporary construction aids and restraints
5. Labeling and tags
6. Subsequent movement of melter for potential remotability testing
7. Items and activities that do not prevent jumper installation

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH46202A9	Assembly - Melter 1	4HH46102A2	HLW - Move - Melter 1 into building

Objective Evidence of Milestone Completion

- Copies of signed off record(s) for melter movement; this will consist of special instructions signed off to indicate movement is complete (or equivalent inspection records in use at time of setting door).

Contract Fee Milestones
HLW-16

Facility	Activity ID	Description
HLW	1GH27C1556	Set C2V/C3V Air Handling Units at Elevation 58 Ft

Milestone Definition

Initial set in place in final location of C2V system air handling units C2V-AHU-00004A, -00004B, and -00004C , and C3V system air handling units C3V-AHU-00001A and -00001B at elevation 58 ft, excluding permanent installation

Inclusions

1. Installation and inspection acceptance that the air handling units listed above are located in their correct location and orientation including final fixing into position
2. Units will be in a condition that will not require repair, modification, or upgrades

Exclusions

1. Final alignments for motor/fan couplings
2. Installation of associated control panels
3. Electrical and grounding connections
4. Piping and instrument connections
5. Duct connections
6. Installation of loose items and internals
7. Painting and painting touch up
8. Fireproofing and fireproofing touch up
9. Labeling and tags
10. Removal of temporary construction aids and shipping aids
11. Installation of temporary protection for construction
12. Internal cleanliness inspection and acceptance
13. Items and activities that will not prevent connection of the duct, controls and utilities

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH124021	FREP Slab 4021	4HH124023	FREP Slab 4023
4HH124022	FREP Slab 4022	4HH27514CD	Set C2V-AHU-4A-C PG4
4HH2714120	Set C3V-AHU-1 A&1B PG7		

Objective Evidence of Milestone Completion

- Copy of material receiving report for air handling units.
- Copy of special instructions (or alternative record in use at time of installation) for setting C2V and C3V system air handling units, with sign offs for setting activities.

Contract Fee Milestones
HLW-17

Facility	Activity ID	Description
HLW	1GH14C1557	Complete HLW Main Building Weathering

Milestone Definition

Complete the installation of siding and roof for HLW main building.

Inclusions

Erection and inspection acceptance of siding and roof panels and associated supports for the main HLW building in accordance with specifications

Exclusions

1. Siding and roof panels left out to provide construction access (not exceeding one percent of total surface area)
2. Coatings and coatings touch up
3. Permanent penetration seals
4. Removal of temporary construction aids
5. Grounding attachments
6. Labeling and signs
7. Attachment of lighting fixtures and other equipment items
8. Doors, windows, and louvers
9. Items and activities that do not interfere with immediate weather protection

Key Predecessors

Activity ID	Description	Activity ID	Description
4HH1471010	S/C Install Siding Elev 60 to 91 and Roof - Main Bldg		

Objective Evidence of Milestone Completion

- Sketch or drawing showing scope of main HLW building siding and roof marked up to indicate areas excluded for construction access.
- Indication to demonstrate the milestone scope depicted on the sketch or drawing is covered by signed subcontractor inspection records.
- Copies of signed subcontractor inspection records for siding and roof installation acceptance.
- Copies of open punch list items and open nonconformance reports, construction deficiency reports, and field checklists.

Contract Fee Milestones
HLW-18

Facility	Activity ID	Description
HLW	1GH00C1558	HLW Construction Commence Turnover to Startup (Electrical System Package)

Milestone Definition

Demonstrate HLW construction readiness to commence turnover to Startup by completing turnover of the electrical system package. This consists of the low (LVE) and medium (MVE) voltage systems.

Inclusions

Included in Definition

Exclusions

1. Electrical system (LVE and MVE) category B and E punch list items as defined in 24590-WTP-GPG-CON-1601, *Control of Punch List Items*
2. Testing activities that are within Startup scope per, division of responsibility contained in 24590-WTP-GPP-MGT-042, *Construction to Startup Turnover*
3. Removal of temporary construction aids (temporary power, etc.)
4. Turnover of all documentation
5. Startup final acceptance signatures of electrical system package turnover (LVE and MVE)

Key Predecessors

- Refer to BNI target schedule for key predecessors.

Objective Evidence of Milestone Completion

- Copy of signed (by Construction Management) electrical system turnover package (LVE and MVE).
- Copies of electrical system (LVE and MVE) open B and E punch list items.

Contract Fee Milestones
HLW-19

Facility	Activity ID	Description
HLW	1GHC2S1659	Demonstrate Canister Lid Weld

Milestone Definition

Demonstrate that the canister lid welder installed in the canister handling cave produces a satisfactory canister weld as evidenced by meeting the welder's test acceptance criteria. Key predecessor activities for the HPH system exclude equipment unrelated to operation of the welder.

Inclusions

Included in Definition

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
5HHC2HPHIA	Startup Accept from Construction HPH	5HHC2HPHAA	HLW SU Perform Component Testing HPH

Objective Evidence of Milestone Completion

- Copy of the test report section(s) related to the canister welder or test report section(s) viewable in Project Document Control.

Contract Fee Milestones
HLW-20

Facility	Activity ID	Description
HLW	1GHC2S1660	HLW Final System Turnover Complete

Milestone Definition

Demonstrate HLW construction completion by acceptance of turnover of the final system by Startup.

Inclusions

Included in Definition

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
5HHC2CHWIA	HLW SU Accept From Construction CHW	5HHC2HRHIA	HLW SU Accept From Construction HRH
5HHC2DIWIA	HLW SU Accept From Construction DIW	5HHC2MH1IA	HLW SU Accept From Construction HMH1
5HHC2DOWIA	HLW SU Accept From Construction DOW	5HHC2SH1IA	HLW SU Accept From Construction HSH1
5HHC2ISAIA	HLW SU Accept From Construction ISA	5HHC2AMRIA	HLW SU Accept From Construction AMR
5HHC2PSWIA	HLW SU Accept From Construction PSW	5HHC2EMJIA	HLW SU Accept From Construction EMJ
5HHC2HPSIA	HLW SU Accept From Construction HPS	5HHC2MH2IA	HLW SU Accept From Construction HMH2
5HHC2LPSIA	HLW SU Accept From Construction LPS	5HHC2MP1IA	HLW SU Accept From Construction HMP1
5HHC2PCWIA	HLW SU Accept From Construction PCW	5HHC2NARIA	HLW SU Accept From Construction NAR
5HHC2SCWIA	HLW SU Accept From Construction SCW	5HHC2RLDIA	HLW SU Accept From Construction RLD
5HHC2DCEIA	HLW SU Accept From Construction DCE	5HHC2SHRIA	HLW SU Accept From Construction SHR
5HHC2LVEIA	HLW SU Accept From Construction LVE	5HHC2ASXIA	HLW SU Accept From Construction ASX
5HHC2MVEIA	HLW SU Accept From Construction MVE	5HHC2C3VIA	HLW SU Accept From Construction C3V
5HHC2LTEIA	HLW SU Accept From Construction LTE	5HHC2HPHIA	HLW SU Accept From Construction HPH
5HHC2HTEIA	HLW SU Accept From Construction HTE	5HHC2FDEIA	HLW SU Accept From Construction FDE
5HHC2NLDIA	HLW SU Accept From Construction NLD	5HHC2FPWIA	HLW SU Accept From Construction FPW
5HHC2UPEIA	HLW SU Accept From Construction UPE	5HHC2SH2IA	HLW SU Accept From Construction HSH2
5HHC2GF1IA	HLW SU Accept From Construction HGF1	5HHC2PWDIA	HLW SU Accept From Construction PWD

Contract Fee Milestones
HLW-20

5HHC2GF2IA	HLW SU Accept From Construction HGF2	5HHC2C2VIA	HLW SU Accept From Construction C2V
5HHC2C1VIA	HLW SU Accept From Construction C1V	5HHC2HFHIA	HLW SU Accept From Construction HFH
5HHC2FP1IA	HLW SU Accept From Construction HFP1	5HHC2RPJIA	HLW SU Accept From Construction RPJ
5HHC2FP2IA	HLW SU Accept From Construction HFP2	5HHC2RWHIA	HLW SU Accept From Construction RWH
5HHC2PJVIA	HLW SU Accept From Construction PJV	5HHC2MP2IA	HLW SU Accept From Construction HMP2
5HHC2CMEIA	HLW SU Accept From Construction CME	5HHC2HDHIA	HLW SU Accept From Construction HDH
5HHC2MHJIA	HLW SU Accept From Construction MHJ	5HHC2OP1IA	HLW SU Accept From Construction HOP1
5HHC2PCJIA	HLW SU Accept From Construction PCJ	5HHC2BSAIA	HLW SU Accept From Construction BSA
5HHC2PPJIA	HLW SU Accept From Construction PPJ	5HHC2HEHIA	HLW SU Accept From Construction HEH
5HHC2PTJIA	HLW SU Accept From Construction PTJ	5HHC2OP2IA	HLW SU Accept From Construction HOP2
5HHC2C5VIA	HLW SU Accept From Construction C5V		

Objective Evidence of Milestone Completion

- Copy of signed (by Startup Manager) accepted turnover package for the final HLW system or final system turnover package viewable in Project Document Control.

Contract Fee Milestones
LAW-01

Facility	Activity ID	Description
LAW	1GL47P0922	Receive Offgas Mercury Adsorber, PA #09A EL+48

Milestone Definition

Receive and accept at Marshalling Yard the offgas mercury adsorbers. Includes the following tag IDs:

- LVP-ADBR-00001A
- LVP-ADBR-00001B

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
9ZL471510M	LAW - MY QC/MRR Offgas Mercury Adsorber		

Objective Evidence of Milestone Completion

- BNI shall provide documented evidence to DOE of the receipt of equipment per WTP procedure 24590-WTP-GPP-GPT-00100 “Traffic and Logistics”.
- Completion of the milestone will include issuance to PDC of the G321V. In addition, completion of this milestone will include a screen shot from the Bechtel Procurement System demonstrating that the material receiving report number has been issued for the specific shipment and the material receiving report has been completed and issued by Project Document Control.

Contract Fee Milestones
LAW-02

Facility	Activity ID	Description
LAW	1GL36P1027	CATOX LVP-SKID-00002 Received and Ready to Install

Milestone Definition

Receive and accept the LAW melter offgas catalytic oxidizer procured under MBT0-00007. Includes the following tag ID:

- LVP-SKID-00002

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
9FL36426L3	LAW-MS DMY: MBT0-07 Thermal Catalytic Oxidizer	9ZL363790M	LAW – QC/MRR MBT0-07 Thermal Catalytic Oxidizer

Objective Evidence of Milestone Completion

- BNI shall provide documented evidence to DOE of the receipt of equipment per WTP procedure 24590-WTP-GPP-GPT-00100 “Traffic and Logistics”.
- Completion of the milestone will include issuance to PDC of the G321V. In addition, completion of this milestone will include a screen shot from the Bechtel Procurement System demonstrating that the material receiving report number has been issued for the specific shipment and the material receiving report has been completed and issued by Project Document Control.

Contract Fee Milestones
LAW-04

Facility	Activity ID	Description
LAW	1GL00C1505	Complete Melter 1 Movement into Building

Milestone Definition

Scope to include completion of Melter #1 site assembly and movement from the melter assembly pad to the permanent plant location.

Inclusions

N/A

Exclusions

1. Melter offgas pipe, electrical buss, and general jumper connections (installations to be sequenced with the startup component check out requirements)
2. Final alignments
3. Open punch list items that do not impede follow on activities (note above)
4. Coatings and final touch up
5. Removal of temporary construction aids
6. Labeling and tags
7. Subsequent movement of melter for potential remotability testing

Key Predecessors

Activity ID	Description	Activity ID	Description
4LL004698F	LAW - Melter #1 Move Into Building	4LL4602B81	LAW - Move & Install Melter #1

Objective Evidence of Milestone Completion

- Provide notification of contract completion milestone along with signed test copies. Provide copy of signed off record(s) for melter movement. This will consist of special instructions signed off to indicate movement is complete (or equivalent inspection records in use at time of movement).

Contract Fee Milestones
LAW-05

Facility	Activity ID	Description
LAW	1GL00C1515	Complete Melter 2 Movement into Building

Milestone Definition

Scope to include completion of Melter #2 site assembly and movement from the melter assembly pad to the permanent plant location.

Inclusions

N/A

Exclusions

1. Melter offgas pipe, electrical buss, and general jumper connections (installations to be sequenced with the startup component check out requirements)
2. Final alignments
3. Open punch list items that do not impede follow on activities (note above)
4. Coatings and final touch up
5. Removal of temporary construction aids
6. Labeling and tags
7. Subsequent movement of melter for potential remotability testing

Key Predecessors

Activity ID	Description	Activity ID	Description
4LL004699F	LAW - Melter #2 Move Into Building	4LL4602B82	LAW - Move & Install Melter #2

Objective Evidence of Milestone Completion

- Provide notification of contract completion milestone along with signed test copies. Provide copy of signed off record(s) for melter movement. This will consist of special instructions signed off to indicate movement is complete (or equivalent inspection records in use at time of movement).

Contract Fee Milestones
LAB-03

Facility	Activity ID	Description
LAB	1GT47C1356	Complete Installation of Autosampler System

Milestone Definition

Scope to include mechanical completion of the Autosampler System in the LAB facility only.

Inclusions

N/A

Exclusions

Pneumatic transfer (flight tube) components yet to be sequenced with the pipe rack installation (PT access priorities)

Key Predecessors

Activity ID	Description	Activity ID	Description
4TT4705	LAB - Install Autosampler Systems Completion	9FT4719D8	LAB - ASX Equipment DMY
9ZT471913M	LAB - MY QC & MRR - ASX - Autosamplers	3ET47191C1	LAB - MS All VPs to Code 1

Objective Evidence of Milestone Completion

- Following physical walk-down, inspections, and records review, BNI to provide notification of contract milestone completion to DOE-WTP.

Contract Fee Milestones
BOF-01

Facility	Activity ID	Description
BOF	1GB47P1040	Receive Anhydrous Ammonia System

Milestone Definition

BOF receive Anhydrous Ammonia equipment procured under CM-MRA-MS00-00021 and QL-MRA-MVSC-00002. Includes the following tag IDs:

- CM-MRA-MS00-00021: AMR-VPR-00002 & 00003
- QL-MRA-MVSC-00002: AMR-VSL-00003 & 00004

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
9FB47376C2	BOF - DMY - Anhydrous Ammonia Strg/Sply	9ZB47376C3	BOF - MS- MRR- Anhydrous Ammonia Strg/Sply
9FB47353F3	BOF - DMY - Anhydrous Ammonia Strg AAS Vessels	9ZB47353F4	BOF MS MRR- Anhydrous Ammonia Strg AAS Vessels

Objective Evidence of Milestone Completion

- BNI shall provide documented evidence to DOE of the receipt of equipment per WTP procedure 24590-WTP-GPP-GPT-00100 “Traffic and Logistics”.
- Completion of the milestone will include issuance to PDC of the G321V. In addition, completion of this milestone will include a screen shot from the Bechtel Procurement System demonstrating that the material receiving report number has been issued for the specific shipment and the material receiving report has been completed and issued by Project Document Control.

Contract Fee Milestones
BOF-03

Facility	Activity ID	Description
BOF	1GB5JC1046	Complete Chiller Compressor Plant Construction

Milestone Definition

This milestone assumed complete when the physical work for the facility has been completed and is in a state that allows systematic turnover to the startup group to proceed.

Inclusions

Substantial installation of commodities, verified by a joint construction walk-down and use of other Bechtel reporting tools

Exclusions

1. Coatings touch up
2. Penetration seals
3. Partition wall repairs, if any
4. Labeling and tags
5. Equipment and/or pipe insulation
6. Items held out at Startup's request (for example):
   a. Pipe flush spool removal
   b. Final pipe hanger settings
   c. Piping in-line devices (for flushing)
   d. General instrumentation (for damage)
   e. Electrical cable terminations (formed but not landed)
7. Removal of construction aids (scaffold, other)
8. Final work package documentation
9. CME and DCS/ICN (PCJ) system scope

Key Predecessors

Activity ID	Description	Activity ID	Description
4BB13CCP01	BOF - Misc. Steel - Chiller/Comp Plant	4BB17010Z	BOF - Instrumentation - CCP
4BB10GM105	BOF - Cmpt Const Chiller/Compressor Plant		

Objective Evidence of Milestone Completion

- Following physical walk-down, inspections and records review, BNI to provide notification of contract milestone completion to DOE-WTP.

Contract Fee Milestones
BOF-05

Facility	Activity ID	Description
BOF	1GBC2S1463	Complete Electrical Distribution System Testing MVE (Site Energization)

Milestone Definition

All component and system level testing within the BOF power distribution systems (MVE) has been completed. Scope of checkout and energization to within switchgear building #87.

Inclusions

N/A

Exclusions

1. Power distribution checkout in each individual BOF facility outside switchgear building #87.
2. Power distribution from building #89 (Diesel Generator Facility) which includes the Standby Diesel Generator.

Key Predecessors

Activity ID	Description	Activity ID	Description
5HBC2A5PZA	BOF SU Perform Component Testing SG	5HBC2A5PEA	BOF SU Perform System Testing SG

Objective Evidence of Milestone Completion

- Provide notification of contract completion milestone to DOE-WTP along with signed test copies.

Contract Fee Milestones
BOF-06

Facility	Activity ID	Description
BOF	1GB12C1253	Complete Emer. Diesel Gen. Base Slab

Milestone Definition

Complete formwork, reinforcing bar, embeds, and concrete placement of the base slab for the Emergency Desiel Generator facility. Predecessors may be updated per #TN-BCP-3672 once approved.

Inclusions

N/A

Exclusions

N/A

Key Predecessors

Activity ID	Description	Activity ID	Description
4BB122048B	BOF FREP Emergency Diesel Tank Foundations -DG	3EG360981G	MS Award Pres Vsl Shop Fab Q-MA-MVSC-01
3EB12CS400	C/S - Design Emergency - DSL GEN FDN	9FB360982X	MS - VP Code 1/SDDR: Q-MA-MVSC-01 DFO
9ZB3606560	BOF- Vendor Foundation Loads - (DSL TNKS)		

Objective Evidence of Milestone Completion

Following physical walk-down, inspections and records review, BNI to provide notification of contract milestone completion to DOE-WTP.

Note: This Milestone Definition is currently undergoing a revision, which will be documented in a future contract modification.

Contract Fee Milestones
BOF-07

Facility	Activity ID	Description
BOF	1GB28C1360	Set (2) Emergency Diesel Generators

Milestone Definition

Receive on site and rough set (2) ITS Diesel Generators. Predecessors may be updated per #TN-BCP-3672 once approved.

Inclusions

N/A

Exclusions

Permanent anchorage and follow-on pipe and electrical attachments are excluded. Also, excludes installation of the standby diesel generators.

Key Predecessor Listing

Activity ID	Description	Activity ID	Description
4BB28048A	BOF - Set (2) ITS Diesel Generators		

Objective Evidence of Milestone Completion

- Following physical walk-down, inspections and records review BNI to provide notification of contract milestone completion to DOE-WTP.

Note: This Milestone Definition is currently undergoing a revision, which will be documented in a future contract modification.

SECTION J – LIST OF ATTACHMENTS
ATTACHMENT Q
DFLAW DESIGN COMPLETION CRITERIA INCENTIVE DEFINITIONS (350)

The DFLAW Design effort in CLIN 2.1 consists of several fee incentives as outlined in Section B.5(f). This attachment contains the completion criteria for these fee incentives.

DFLAW DESIGN COMPLETION COST INCENTIVE FEE

The DFLAW Design Completion Incentive Fee consists of two components. A Schedule Incentive Fee which can adjust the final Cost Incentive Fee calculation positively for early completion or negatively for late completion and a Cost Incentive Fee which is determined at the completion of the effort as defined herein.

The schedule completion incentive/disincentive fee of this milestone is calculated by the completion of the Section 1 Major Scope Elements established in the Milestone Definition (MD) Sheet (DF-01). The target schedule completion is April 30, 2018. Calculation of any Cost Incentive Fee adjustments associated with the schedule performance shall be based on this target date. See Section B, ATTACHMENT B-2-F, Table B-2-F-1 for the Schedule Incentive Fee details.

Cost performance for DFLAW Design Completion will be measured by the cumulative costs associated with the performance of the Major Scope Elements and the Residual Scope Elements established in the Milestone Definition sheet for DFLAW Design Completion. The Cost Incentive Fee shall be determined once the combined scope elements have been completed and a “Declaration of Completion” package has been prepared by the Contractor and approved by DOE as outlined in Section B, ATTACHMENT B-2-F. Evidence of completion of the Activities defined in the MD Sheet (DF-01) shall be provided for verification.

DFLAW INTERIM MILESTONE COMPLETION

The DFLAW Interim Milestone Completion Incentive Fee consists of two distinct components. These components are “EMF Hazard Analysis and 30% Design Review” (DF-02) and DFLAW Safety Basis Change Package (DF-03) and are defined in the Interim Milestone definition sheets contained herein. The Contractor shall prepare and submit a Declaration of Completion to DOE for determination of the final fee paid for these Interim Milestones as outlined in Section B ATTACHMENT B-2-F. The fee for these Interim Milestones will be earned and payable when the Contracting Officer determines the milestone has been completed as described in the milestone definition sheets DF-02, and DF-03 contained in this Attachment Q.

DF-01 Cost Incentive Milestone Definition Sheet WTP Contract No. DE-AC27-01RV14136

Facility	Activity ID	Description
DFLAW		CLIN 2.1 DFLAW Design Completion

Milestone Definition
Completion of major design activities associated contained in Section 1 constitutes completion of the Schedule incentive/disincentive portion of the DFLAW Design Completion fee. Completion of the Residual Scope Elements in Section 2, and Section 3 defines objective evidence for completion of CLIN 2.1 Design for the purposes of calculating the Cost Incentive Fee as set forth in Section B-2-F-1.

Section 1: Major Design Elements

- SDD/FDD (System Design Description / Facility Design Description)
- Final Process Flow Diagrams
- Heat and Material Balance
- Major Equipment Lists
- Instrumentation Specifications
- Major System Calculations
- Major System Specifications and Data sheets
- P&IDs / Line and Valve Lists
- V&IDs and Lists
- Plant layout design detailed planning (3d model)
- Detailed Piping Design
- Stress and Support design
- Architectural Design Renderings, Layouts, details and schedules
- Structural / Foundation Design Concrete
- Structural / Foundation Design Steel
- Civil Design drainage, grading, paving underground
- Radiation Safety Design Criteria
- Hazards Analysis
- Fire Analysis
- Preliminary Documented Safety Analysis (PDSA)

Section 2: Residual Scope Elements:

- Arc Flash Calculations
- Final Termination Schedules
- Software Requirements
- Final Instrument Index
- Functional Acceptance Testing (Operations and Engineering Testing)
- Develop ICN Simulator Software for LAW/EMF
- Final Public Reviews / Permitting – operating and final installation permit for DWP equipment in EMF (Evaporator and tanks)
- Management of Acquired Software. IT-14 is the old procedure for software quality and putting software on the baseline, this procedure will be replaced with a new engineering procedure

Section 3: Objective Evidence of Milestone Completion and DFLAW Activity ID Key Predecessors

Completion of this milestone shall be measured by submittal of a "Declaration of Completion" (DOC) package by BNI. Separate DOC packages shall be submitted for the Schedule and Cost

components of this milestone supported by evidence of completion. The Schedule DOC package shall include evidence of completion of the Major Design Elements defined in section 1. The DOC package for the cost component of this milestone shall include evidence of completion of Residual Scope elements defined in Sections 1 and 2. The Cost DOC shall include evidence of completion of those activities which would support a bid for procurement and construction of the DFLAW project. The Cost DOC submittal shall include the following elements of work:

- **Engineering report for DFLAW scope with confirmed calculations and drawings.**
- **Confirmed specifications and datasheets, suitable for soliciting bids from contractors and suppliers**
- **Initial issuance of the preliminary safety analysis and preliminary fire hazard analysis**

The following list of Key Predecessors will be completed:

Activity ID	Description	Activity ID	Description
3ED90BODCN	EMF - E1 - BODCN Completion	3ED900011	EMF - E1 - Perform 30% Review
3ED900025	EMF - E1 - DFLAW - ICD 30	3ED90HAZD	EMF - E1 - Hazardous Analysis Completion
3ED900026	EMF - E1 - DFLAW - ICD 31	3ED4800008	EMF - EN - Issue Water DIW / DOW / PCW/PSW P&IDs & Lists - Rev 0
3ED900027	EMF - E1 - DFLAW - ICD 6	3ED4800009	EMF - EN - Issue Air BSA/ISA/PSA P&IDs & Lists - Rev 0
3ED4800004	EMF - EN - Issue Drains / Vents / Interfaces P&IDs & Lists - Rev 0	3ED4800006	EMF - EN - Issue Steam LPS / HPS / SCW P&IDs & Lists - Rev 0
3ED4800014	EMF - EN - Issue Evaporator P&IDs & Lists - Rev 0	3ED2700017	EMF - EH - Issue Fire Protection P&ID (1) - Rev 0
3ED4800017	EMF - EN - Issue Major Water DIW / DOW / PCW / PSW Equipment Datasheets - Rev 0	3ED4800118	EMF - EN - Issue Major Air BSA/ISA/PSA Equipment Datasheets - Rev. 0
3ED4800114	EMF - EN - Issue Evaporator Equipment Datasheets - Rev. 0	3ED4800115	EMF - EN - Issue Major Drains/Vents/Interfaces Equipment Datasheets Rev. 0
3ED4800116	EMF-EN-Issue Major Equipment Datasheets to Support Permitting –Rev. 0	3ED1700108	EMF - EJ - Develop and Issue HVAC and Fire Protection Instruments Data Sheets Rev. 0
3ED1700069	EMF - EJ - Develop and Issue Steam LPS/HPS/SCW Instruments Data Sheets Rev. 0	3ED1700042	EMF - EJ - Develop and Issue Water DIW/DOW/PCW/PSW Instruments Data Sheets Rev. 0
3ED1700086	EMF - EJ - Develop and Issue Air BSA/ISA/PSA Instruments Data Sheets Rev. 0	3ED1700081	EMF - EJ - Develop and Issue Evaporator Instruments Data Sheets Rev. 0
3ED1700098	EMF - EJ - Develop and Issue Drains Instruments Data Sheets Rev. 0	3ED1700042	EMF - EJ - Develop and Issue Water DIW/DOW/PCW/PSW Instruments Data Sheets Rev. 0
3ED4800118	EMF - EN - Issue Major Air BSA/ISA/PSA Equipment Datasheets - Rev. 0	3ED4800115	EMF - EN - Issue Major Drains/Vents/Interfaces Equipment Datasheets Rev. 0
3ED4800116	EMF - EN - Issue Major Equipment Datasheets to Support Permitting - Rev. 0	3ED4800114	EMF - EN - Issue Evaporator Equipment Datasheets - Rev. 0
3ED1700069	EMF - EJ - Develop and Issue Steam LPS/HPS/SCW	3ED1700086	EMF - EJ - Develop and Issue Air BSA/ISA/PSA Instruments Data

	Instruments Data Sheets Rev. 0		Sheets Rev. 0

DF-02 Interim Milestone Definition Sheet WTP Contract No. DE-AC27-01RV14136

Facility	Activity ID	Description
EMF	3ED900011	EMF Hazard Analysis and 30% Design Review

Milestone Definition
30% Design Review will use the process as defined in procedure 24590-WTP-GPG-ENG-050 (3D Model Review/Freeze). A design review plan will be prepared, submitted and approved at least 5 working days prior to conducting the review. This plan will include objectives, scope of review, documents to be reviewed, method(s) for conducting the review, and methods to resolve any identified issues. The expectation of the process is to finalize and approve (freeze) the design and 3D model, and ensure inter-discipline/functional coordination.

Model review participants are across all functions and disciplines and include the following:

- Engineering Design Agency (As a minimum this includes; CSA, Electrical, C&I, Mechanical, HVAC, Fire Protection, Plant Design)
- Engineering Design Authority (As a minimum this includes; Nuclear Safety, System Engineering, and Process Engineering)
- Nuclear Safety
- Environmental
- Industrial Hygiene
- Operations
- Plant Engineering
- Procurement
- Construction
- DOE

Model review participants are expected to provide constructive input on the design of the commodities being reviewed relative to the following:

- Safety
- Quality
- Operability
- Maintainability
- Constructability
- Human Factors
- Permitting requirements
- As Low As Reasonably Achievable (ALARA) principles.

The following related activities will be fundamentally complete before a 30% Design Reviews is commenced:

- BOD (Basis of Design) Requirements are defined
- Hazards to system operation have been preliminarily identified and mitigation strategies defined
- Major equipment and systems are identified

Requirements

- Preliminary System Design Descriptions (SDD), Part 1 (Not issued)
- Preliminary Facility Design Descriptions (FDD) (Not issued)

Basis of Design

- System Requirements Document
- Design Criteria
- Code of Record
- Scope of Facilities
- Operations and Maintenance Requirements (ORD)

Nuclear Safety

Preliminary hazard analysis, accident analysis, and control selection
Technical Issues - Identified

- Preliminary Functional Requirements
- Preliminary Technical Safety Requirements
- Preliminary Radiation Zone Maps
- Preliminary Shielding Criteria

Process Engineering

Establish basis for design and identify applicable codes and standards

- Process Analysis Model >90%
- Waste streams identified
- Input Basis of Design >90%
- Revision A Process Flow Diagrams (PFDs)
- Revision A Mass Balance

Mechanical Systems, including Mechanical Handling and Fire Protection

Establish basis for design and identify applicable codes and standards

- Preliminary Calculations
- Preliminary P&IDs
- Preliminary System Flow Diagrams
- Preliminary Mechanical Line, Valve & Equipment Lists
- Preliminary Mechanical Handling Drawings
- Preliminary Mechanical Sequence Drawings
- Preliminary MR/Spec/Datasheets for Long Lead Procurements

HVAC

Establish basis for design and identify applicable codes and standards

- Preliminary Calculations
- Preliminary Ventilation Flow Diagrams (FD)
- Preliminary V&IDs
- Preliminary Heating/Cooling Loads
- Preliminary Equipment List
- Preliminary Duct Routing (major runs)
- Preliminary MR/Spec/Datasheets for Long Lead Procurements
- Preliminary Electrical Power (Equipment Loads & Duty)
- Preliminary Heat Generated by Equipment
- Preliminary Air Flow/Cooling Needs for Equip
- Preliminary Compressed Air/Gases

CSA (Civil, Structural & Architectural)
Establish basis for design and identify applicable codes and standards.

- Preliminary Structural Model Complete
- Preliminary Structure Framing Plans/Sections
- Preliminary Concrete drawings
- Preliminary Calculations
- Preliminary Plot Plan
- Preliminary Drainage Plan
- Preliminary Plans, Sections, Elevations
- Preliminary Architectural Details
- Preliminary Architectural Schedules

Plant Design

- Major Commodities – 30% of Budget Quantities In the Model
- Major Process and HVAC Equipment Modelled
- Space Allocation Plan Implemented
- Preliminary General Arrangement Drawings
- Preliminary Building Plumbing and Drains
- Preliminary HVAC Orthographic Drawings
- Preliminary Piping Specifications
- Preliminary Piping Class Sheets

Electrical
Establish basis for design and identify codes and standards

- Preliminary Calculations
- Preliminary One-Line Diagram
- Preliminary Electrical Load Summary
- Preliminary Power Distribution System Layout (Load Centers, Switchgear, MCCs, Panel Boards)
- Preliminary MR/Spec/Datasheets for Long Lead Procurements

Controls and Instrumentation
Establish basis for design and identify applicable codes and standards

- Preliminary Calculations
- Preliminary Control Strategy
- Preliminary Control Requirements (manual, semi, automatic)
- Preliminary Communication protocol
- Preliminary Security, data storage, retrieval and security
- Reliability, Availability, Maintainability (RAM) parameters identified for key systems
- Preliminary MR/Spec/Datasheets for Long Lead Procurements

Other

- Issued for Use Interface Control Documents (ICD)
- Preliminary Material Assignment Schedule (MAS)

Inclusions
N/A

Exclusions
N/A

Objective Evidence of Milestone Completion and DFLAW Activity ID Key Predecessors:

Objective Evidence

The Issued 30% review will be documented by issuing an Engineering Report containing the associated EMF Hazard Analysis. The report will describe the status of the design; address each design, safety basis, and operating and maintenance requirement including design and safety margins and capability to comply with WTP Contract technical and quality requirements. The report shall resolve issues identified by DOE and the Contractor staff during the review. The report will identify open issues and unverified assumptions requiring closure as design matures. These actions and items that are not incorporated will be tracked in an action tracking system. This interim milestone will be considered complete upon submission by the Contractor to DOE, subject to concurrence by DOE within 10 days of receipt.

Key Predecessors

Activity ID	Description	Activity ID	Description
3ED900025	EMF - E1 - DFLAW - ICD 30	3ED4700003	EMF – EB – Develop Process Flow Diagrams - Committed
3ED900026	EMF - E1 - DFLAW - ICD 31	3ED1000005	EMF – E2 – Prepare BODCN
3ED900027	EMF - E1 - DFLAW - ICD 6	3ED4700001	EMF – EB – Develop Process Committed Calculations – Equipment Design
3ED4800004	EMF - EN - Issue Drains / Vents / Interfaces P&IDs & Lists - Rev 0	7KLDFL327	DFLAW Hazard Analysis

DF-03 Interim Milestone Definition Sheet WTP Contract No. DE-AC27-01RV14136

Facility	Activity ID	Description
EMF		DLFAW Safety Basis Change Package (PDSA)

Milestone Definition
Prepare and issue the DFLAW EMF Safety Basis Change Package (SBCP)/Preliminary Documented Safety Analysis (PDSA) update as an addendum to the LAW PDSA. Submit the SBCP/PDSA to DOE.

Inclusions
N/A

Exclusions
N/A

Objective Evidence of Milestone Completion and Key Predecessors
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This milestone shall be considered complete upon the submission of the SBCP/PDSA to DOE. DOE shall provide concurrence regarding the acceptability of the submission or provide notice of material deficiencies within 10 working days of receipt. In the event DOE provides notice of material deficiencies after 10 working days, the Contractor shall be granted day for day relief to the schedule decrement outlined in Table B-2-F-1.

DOE shall provide approval of the SBCP/PDSA within 90 days of accepted submission.

Key Predecessors

Activity ID	Description	Activity ID	Description
7KLDFL327	DFLAW Hazard Analysis		
7KLDFL3430	DFLAW Preliminary Documented Safety Analysis (PDSA)		